

NC Department of Health and Human Services

**Division of Mental Health, Developmental Disabilities and
Substance Abuse Services**

Proposal to Address:

**Substance Abuse and Mental Health Services Administration
Funding Opportunity Announcement No. TI-17-014
CFDA No. 93.788**

State Targeted Response to the Opioid Crisis Grants

**The NC State Targeted Response to the Opioid Crisis
(NC Opioid STR)
ABSTRACT**

The Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS) of the North Carolina Department of Health and Human Services (NC DHHS), the State Mental Health Authority (SMHA) and the Single State Authority (SSA) for substance use will serve North Carolinians at highest risk for Opioid Use Disorder (OUD) through the proposed project, the NC State Targeted Response to the Opioid Crisis (NC Opioid STR). Opioid use disorders are pervasive throughout North Carolina, due to the use of illegal opiates such as heroin, as well as misuse of prescription opioids; as such, this proposal will identify the areas of highest need with the intent of serving as many individuals and areas as funds will allow.

Over the past several years, North Carolina has experienced an increase in opioid and heroin use, misuse and overdose. In response, the state has developed strategies and implemented several initiatives to address the problem. The Cures Act provides the opportunity to consolidate those efforts, as well as enhance and expand services and supports to meet the needs of the citizens of North Carolina. Given the impact on our state, the governor has made this a top priority of his administration. Under the leadership and direction of the Office of the Governor, the Office of the Attorney General and the Secretary of DHHS, this project will strengthen the foundation for prevention, treatment and recovery services, an essential component of North Carolina's broader efforts to address this challenge and ensure the health and safety of individuals, families and communities in our state.

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The NC State Targeted Response to the Opioid Crisis (NC Opioid STR)

Section A: Population of Focus and Statement of Need

A-1. Communities of focus at highest risk for OUD. The Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS) of the North Carolina Department of Health and Human Services (NC DHHS), the State Mental Health Authority (SMHA) and the Single State Authority (SSA) for substance use, will serve North Carolinians in all 100 counties who are at highest risk for Opioid Use Disorder (OUD) through the proposed project, the NC State Targeted Response to the Opioid Crisis (NC Opioid STR). Epidemiologic data available from the Injury and Violence Prevention Branch Surveillance Unit of NC DHHS show that prescription opioid poisoning deaths increased by 256 percent between 2000 and 2015 while deaths from heroin overdoses increased by 800 percent indicating that the state, like the rest of the country, is facing a problem of epidemic proportions.

While this will be a statewide effort, the following three tables illustrate the severity of the problem in North Carolina by highlighting the top 10 counties for opioid poisoning deaths, heroin poisoning deaths and persons provided treatment for an opioid use disorder.

Table 1 shows the top ten counties ranked according the number of prescription opioid poisoning deaths in 2015. There is some correlation between population size and ranking as the most populous counties in the list, Mecklenburg County and Wake County, with 2015 populations of more than a million, ranked first and second in the number of deaths from prescription opioid poisoning. Guilford County with a population estimate of 517,600 ranked seventh. Forsyth County and Cumberland County with population sizes above 300,000 ranked third and fifth respectively. However, counties with relatively small populations such as New Hanover in southeastern North Carolina (population size = 220,358), Brunswick, (population size = 122,765), and Burke (population size = 88,842) are also in the top ten list. In a 2016 report published in 2016, Castlight Health, a healthcare information company based in San Francisco, (<http://www.starnewsonline.com/news/20160421/study---wilmington-no-1-in-opioid-abuse>) cited Wilmington, a popular tourist destination in New Hanover County, as the city with the highest rate of opioid abuse in the entire nation. Counties with the smallest populations on the list are rural, predominantly white counties with relatively high poverty levels. Brunswick County abuts New Hanover while Burke is located in the western part of the state.

Also shown in Table 1 are percent changes between the year 2000 (when prescription medications began to be more widely prescribed) and 2015. The county with the largest percent change between the two time periods is Brunswick County with a percent change of 567 percent followed by Mecklenburg County, with a percent change of 550 percent.

Table 1. Counties with the Highest Number of Prescription Opioid Poisoning Deaths in 2015 and Percent Change between 2000 and 2015

County	2000	2010	2015	% Change 2000 - 2015
Mecklenburg	6	41	39	550%
Wake	8	31	38	375%
Forsyth	10	15	33	230%
New Hanover	7	22	32	357%
Cumberland	6	22	31	417%
Burke	7	14	30	329%
Guilford	10	21	29	190%
Brunswick	3	18	20	567%
Buncombe	9	16	19	111%
Statewide	234	717	854	256%

<http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/poisoning/AllPrescriptionOpioidPoisoningDeathsbyCounty-1999-2015.pdf>

Counties with the highest number of prescription opioid poisoning deaths tended to have the highest number of heroin deaths as well as shown in Table 2.

Table 2. Counties with the Highest Number of Heroin Poisoning Deaths in 2015 and Percent Change between 2000 and 2015

County	2000	2010	2015	% Change 2000 - 2015
Mecklenburg	8	3	31	289%
Wake	2	2	30	1400%
Forsyth	2	1	23	1050%
New Hanover	2	3	23	1050%
Guilford	2	4	23	1050%
Cumberland	1	0	22	2100%
Burke	0	1	14	1300%
Buncombe	1	1	14	1300%
Brunswick	0	1	14	139900%
Statewide	41	79	369	800%

<http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/poisoning/AllPrescriptionOpioidPoisoningDeathsbyCounty-1999-2015.pdf>

Data based on treatment episodes for substance use from the NC DMHDDSAS Client Data Warehouse (CDW) show that counties with the highest numbers of deaths from heroin and prescription opioids were also among the counties that served the largest number of individuals for opioid and heroin use as seen in Table 3. The association between opioid related deaths and

county ranking by numbers served for opioid use has at least two implications: first, there is a growing awareness in communities about the consequences of use in these counties; and, second, despite the increase in numbers served, overdose deaths have not abated, highlighting the need to assist providers in these counties with evidence-based prevention, treatment, and recovery services.

Table 3. Persons Served by DMHDDSAS in 2016 in Selected Counties for Opioids, Heroin, and for Heroin and Opioids Combined and Persons Added in 2016*

County	Opioids	Heroin	Combined	Persons added in 2016
New Hanover	229	671	900	82
Wake	488	400	888	315
Guilford	330	536	866	248
Forsyth	437	407	844	154
Buncombe	429	210	639	278
Mecklenburg	184	432	616	324
Gaston	409	195	604	163
Cumberland	469	114	583	303
Pitt	263	298	561	178
Craven	366	189	555	114
Statewide	7,149	12,118	19,537	3,131

*Burke is not among the list of ten counties serving the most persons with heroin and opioid use in 2016. In that year, the county served 324 individuals with combined heroin and opioid use; 307 with opioid use; and 17 with heroin use.

Comprehensive demographic profile of the population that will be served. Table 3 shows the profile of the population that will be served on selected demographic characteristics. The information is based on information provided by the NC Treatment and Outcomes Program Performance System (NC TOPPS) on individuals who received services through the state's publicly funded Opioid Treatment Centers (OTPs) in State Fiscal Year 2016. The table is split between those aged 12 to 17 years (children and youth) and those aged 18 and older (adults) as prevention and treatment strategies and services are expected to vary by age group.

Table 4. Demographic Profile of the Population Who Will Be Served

Characteristic	NC	NC
	Children/Youth	Adults
% White	39.1	61.3
% Black	42.9	33.1
% American Indian	3.5	2.1
% Asian	0.1	0.2
% Other	7.9	1.7
% Multi-racial	6.5	1.5
% Hispanic/Latino origin	12.1	2.5
Females	28.9	45.4

Males	71.1	54.6
% At/or below minimum wage		35.5
% Employed full/part-time		32.2
% Unemployed and seeking work		67.8
% Uninsured	5.8	19.1

A-2. *Differences in access, service use, and outcomes in comparison with the general population in the local service area.* Table 5 below compares the overall population of North Carolina with the population of the United States on selected demographic characteristics based on U.S. census data (<http://www.census.gov/quickfacts/table/PST04521/37>). The state has a greater proportion of blacks/American Americans and American Indians/Alaskan Natives while the proportions of Hispanics/Latinos and Asians are lower. More people in the state live in poverty (16.4% vs.13.5%) and more North Carolina adults are without health insurance compared to the rest of the country.

A comparison between the population who will be served through the proposed project – individuals with prescription opioid and heroin use disorders served in the state’s publicly funded OTPs (Table 4) - and the general population of the state (Table 5) shows variations by gender, race, and socio-economic characteristics that are indicative of disparities in access to, use, and outcomes of services. Individuals in the proposed population are predominantly male, particularly in the child/youth population 13-17 years old (71.1%). While the majority are white, the over-representation of blacks or African-Americans is substantial, particularly among the child/youth population. American Indians, other minority groups, and those reporting more than one race are also over-represented. The population of focus is more likely to be at lower socio-economic levels than the general population of the state; a higher percentage live below poverty level (19.1% vs. 13.1%); a substantially higher percentage are unemployed (67.8%), i.e., only 32.2 percent are employed compared to 61.8 percent of the general population.

Table 5. Demographic Profile of the General NC and US Population

Characteristic	NC	US
% under 18	22.8	22.9
% White	71.2	77.1
% Black	22.1	13.3
% American Indian/Alaskan Native	1.6	1.2
% Asian	2.8	5.6
% Native Hawaiian/other Pacific Islander	0.1	0.2
% Multi-racial	2.1	2.6
% Hispanic/Latino origin	9.1	17.6
% Females	51.3	50.8
% Males	48.7	49.2
% Language other than English spoken at home	11.2	21.0
% Persons in poverty	16.4	13.5
% In civilian labor force (16 and above)	61.8	63.3

% Without health insurance (under 65)	13.1	10.5
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How the proposed project will improve disparities in access, service use, and outcomes. The proposed project will reach out to those who are at risk of or who have opioid use disorders, particularly those in minority groups. The intent of this proposal is to also focus on rural areas of the state where access to MAT is particularly difficult, often due to lack of transportation. It will also focus on those individuals with an opioid use disorder who re-entering communities from the 56 prisons located throughout the state. It will serve individuals with Evidence-Based Practices such as Medication-Assisted Therapy that have been shown to be effective by gender, ethnicity, and minority groups. This grant will afford individuals more options in the types of FDA approved available to them. Recovery support services will be an integral component of this grant, as transportation is frequently noted as a barrier to accessing treatment, particularly if daily or weekly attendance or participation is necessary. Outreach and engagement activities will be provided by recovery peers in an effort to improve individuals' engagement and retention in treatment.

A-3. Nature of the OUD Problem and extent of the need of the population of focus. The U.S. Department of Health and Human Services describes the rise in deaths from the use and misuse of opioids, a class of drugs that include heroin and prescription pain medications as an epidemic. Deaths involving opioid pain relievers and heroin increased by 200 percent between 2000 and 2014 (https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6450a3.htm?s_cid=mm6450a3_w). The surge was largely fueled by the promotion of prescription opioids to treat pain in the late 1990s and early 2000s and the subsequent transition to heroin as a substitute for opioid medications as prescribing practices improved.

North Carolina was one of 19 states that saw statistically significant increases in drug overdose death rates between 2014 and 2015. The prevalence estimate (age-adjusted death rate) from drug overdose deaths for the state was 15.8 per 100,000 in 2015. A total of 1,567 North Carolinians died from opioid overdoses in 2015 (<https://www.cdc.gov/drugoverdose/data/statedeaths.html>). The overdoses are driven largely by the nonmedical use of pain relievers, the prevalence of which was estimated at 4.27 for North Carolinians 12 years and older based on the 2013-2014 NSDUH surveys. Varying by age, the prevalence estimates were 4.86 for youth and adolescents (12-17); 8.86 for young adults (18-25); and 2.89 for the 26 years and older age group (<https://www.samhsa.gov/data/sites/default/files/1/1/NSDUHsaeNorthCarolina2014.pdf>).

Only 11 percent received treatment for their illicit drug use for each year the survey was conducted from 2010-2014 (https://www.samhsa.gov/data/sites/default/files/2015_North-Carolina_BHBarometer.pdf). In an analysis conducted for the NC Substance Abuse Professional Practice Board in September 2016, the Quality Management Section of the NC Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS) found an estimated 704,520 persons to be in need of substance use disorder services with only 6,675 clinicians available to treat them. The number of providers included 1,571 interns.

The human impact of opioid use is incalculable. The consequences are damaging and long-lasting for the individual, his or her family, and society in general. Opioid use also imposes a substantial economic burden, accounting for a large number of hospitalizations and Emergency

Department visits. As seen in Table 6, the number of people making hospital visits and Emergency Department (ED) visits in the state has been increasing, with the exception of ED visits for prescription opioids that decreased from around 11 percent between 2010 and 2014. The increase has been dramatic for visits associated with heroin use which increased more than fourfold within the same time period, with a percent change of 451.72 for hospitalization and 429.22 for ED visits (<http://www.injuryfreenc.ncdhhs.gov/DataSurveillance/Poisoning.htm>).

Table 6. Hospital and ED Visits for Opiate and Heroin Poisoning for North Carolina

Hospital/ED Visits	2010	2014	% Change
Opiate poisoning hospitalizations	1,925	2,698	40.16
Prescription opioid hospitalizations	1,559	1,963	25.91
Heroin hospitalization	58	320	451.72
Opiate poisoning ED visits	2,846	3,515	23.51
Prescription Opioid ED visits	2,266	2,019	-10.99
Heroin ED visits	213	1,127	429.11

Birnbaum, et al. (2011) conducted an analysis of the societal costs of prescription opioid abuse, dependence, and misuse in the United States for privately insured patients and Medicaid beneficiaries using information that included administrative claims data, the Treatment Episode Data Sets (TEDS), criminal justice data, and labor statistics, as well as Medicaid data from the state of Florida (<http://www.asam.org/docs/advocacy/societal-costs-of-prescription-opioid-abuse-dependence-and-misuse-in-the-united-states.pdf>). The investigators estimated the total costs to be \$55.7 billion in 2007 with workplace costs (e.g., lost earnings due to premature death, reduced compensation, lost employment) accounting for 46 percent of the total; health care costs (excess medical and prescription costs), for 45 percent; and criminal justice (correctional facility and police costs) for 9 percent.

An analysis conducted in 2015 by Matrix Global Advisors allocated the national estimate of health care costs amounting to \$25 billion as found by Birnbaum, et al. (2011) to 50 states and the District of Columbia to generate a state-by-state estimate that took into consideration state population, rates for services, and health care costs, among others (http://www.drugfree.org/wp-content/uploads/2015/04/Matrix_OpioidAbuse_040415.pdf). The health care costs for North Carolina in 2007 were estimated to be \$582,486,663 of which 95 percent was due to excess medical and drug costs. Five percent was attributed to costs associated with treatment, prevention, and research. In a study of Medicaid beneficiaries with continued eligibility of at least one year between 2002 and 2003, McAdam-Marx, Roland, Cleveland, and Oderda (https://www.researchgate.net/publication/42607928_Costs_of_Opioid_Abuse_and_Misuse_Determined_From_a_Medicaid_Database) compared the medical costs incurred in the past 12 months by patients diagnosed with opioid abuse or dependence with those who did not have the diagnosis and found the adjusted costs to be at \$23,556 for the latter as compared to \$8,436 for the former. The costs are even higher when one takes into account the total Medicaid population of the state estimated to be at 1,833,630 in July 2015, the prevalence estimate of past year abuse for opioid abuse and dependence ranging from 9.4-10.3, and the annual costs of \$30,779 (adjusted for inflation) for treating an individual with opioid abuse.

Currently available resources. In the fall of 2014, a group of state leaders representing North Carolina participated in both the National Governors Association (NGA) Policy Academy on Reducing Prescription Drug Abuse and the SAMHSA Policy Academy on Prescription Drug Abuse. Participants included representatives from the NC Medical Board, the NC Board of Pharmacy, Duke Health, the Center for Prevention Services, the University of North Carolina at Chapel Hill, Horizons Treatment Center, Community Care of North Carolina (CCNC), the State Bureau of Investigation (SBI), the Division of Adult Correction and Juvenile Justice in the Department of Public Safety (DPS), as well as staff from DMHDDSAS and DPH in the DHHS.

To successfully address this disease, the state initiated the development of a well-coordinated and multi-pronged strategic plan to meet the most pressing aspects and attend to underlying sources of this disease. In collaboration with local, state and federal stakeholders, the North Carolina Strategic Plan to Reduce Prescription Drug Abuse was developed. It focuses on four core areas:

1. Prevention and Public Awareness: Develop a creative and effective public outreach campaign utilizing evidence-based prevention programs to increase awareness of accidental overdose and the dangers of prescription drug abuse;
2. Intervention & Treatment: Identify and implement strategies to improve access to intervention and treatment;
3. Professional training and coordination: Develop and implement training programs that will increase the effectiveness of public safety, health care, education and other professionals; and
4. Identification of core data: Assess and update existing data sources and develop a data inventory specific to prescription & drug use and overdose, in order to develop a comprehensive plan for utilization of new and existing data sources for prevention, surveillance and research.

In addition to those initiatives the Task Force on Mental Health and Substance Use was convened in the fall of 2015. One of the three workgroups of the task force focused on opioids. The workgroup on Prescription Opioid Use and Heroin Resurgence included a member of the General Assembly, a Supreme Court Justice, a local Sheriff, LME-MCO representatives, a physician, a consumer, and a representative from the state Medicaid agency. The task force issued a report in May of 2016 which included a section dedicated to implementing strategies to reduce prescription opioid misuse and increase treatment for opioid use disorders and contained eleven specific recommendations.

In order to sustain these efforts, continue development and begin implementing the plan, the Prescription Drug Abuse Advisory Committee (PDAAC) was established in accordance with Section Law 2015-241, Section 12F.16.(m). Quarterly meetings began in the spring of 2016 to focus on providing guidance in the implementation of the NC Strategic Plan to Reduce Prescription Drug Abuse, as well as the Centers for Disease Control and Prevention's (CDC) Prescription Drug Overdose Prevention for States Cooperative Agreement. PDAAC members represent a wide variety of agencies and fields, including, but not limited to: local health departments, local departments of social services, healthcare provider organizations and societies, law enforcement, substance abuse prevention and treatment, the recovery community,

mental health treatment, harm reduction, emergency medicine, regulatory boards, poison control, universities, and many other groups.

North Carolina has been cited as one of the more progressive states in the nation for the laws it has enacted in response to the opioid crisis. It has a Prescription Drug Monitoring Program known as the North Carolina Controlled Substances Reporting System (NC-CSRS) that keeps electronic records on controlled substances dispensed by pharmacies and other prescribers. Mandated by the state in 2005, the PDMP law was revised in 2013 to allow unsolicited alerts to physicians, pharmacists, and the NC Medical Board. PDMPs are intended to monitor the use of controlled substances by patients and the dispensing practices of medical practitioners to reduce the misuse and abuse of prescription drugs. In 2015, NC CSRS reported the dispensing of 9,383,417 prescription drugs to 2,166,634 patients across the state. More than 25,000 practitioners in the state have registered with the NC CSRS.

Opioid treatment programs (OTPs) provide medication-assisted treatment (MAT) for persons diagnosed with opioid-use disorder. An OTP is a treatment program certified by the Substance Abuse and Mental Health Services Administration (SAMHSA) in conformance with 42 Code of Federal Regulations (CFR), Part 8, to provide supervised assessment and medication-assisted treatment for patients who are opioid addicted. North Carolina has 53 OTPs with over 17,000 patients dosing daily that use medication, in combination with counseling and behavioral therapies, to provide a whole-patient approach to the treatment of substance use disorders. North Carolina's OTPs are operated as either for-profit businesses, nonprofit organizations including one through the state's ADATC at Walter B. Jones. Approximately half of the OTPs in North Carolina receive State and Federal dollars; however, most are cash pay. Each OTP operating in NC is approved by the North Carolina State Treatment Authority, DMHDDSAS and is responsible for program approval, for monitoring compliance with the regulations related to scope of staff, and operations (10A NCAC 27G.3604).

In 2014, an executive order was signed that initiated the enhancement of collegiate recovery programming on six campuses in North Carolina, and also set the stage for funding recovery community centers. Through this initiative, which was funded with Substance Abuse Prevention and Treatment block grant funds and still continues, four recovery community centers, were awarded funding. These are located in various regions across the state, and included funding to the Eastern Band of the Cherokee Indians.

In 2013, SB20, known as the 911 Good Samaritan/Naloxone Access Law, became effective in North Carolina. The law allowed individuals to help those experiencing an overdose without the risk of being prosecuted for possession of small amounts of drugs. It also allowed community-based organizations to administer naloxone with guidance from a medical provider. More than 140 law enforcement agencies began to carry and use naloxone as a result of this law. Largely because of Good Samaritan/Naloxone Access Law, the number of naloxone reversals exceeded the number of deaths from drug overdoses in 2015. Naloxone became even more accessible in 2016 through legislation that authorized any licensed and practicing pharmacist to dispense naloxone through a standing order signed by the State Health Director of North Carolina, becoming the third state in the country to issue naloxone without need of a prescription from a medical provider. As of January 17, 2017, a total of 1,358 or 63% of pharmacies across North

Carolina were offering naloxone under a standing order (<http://www.naloxonesaves.org/n-c-pharmacies-that-offer-naloxone/>).

Currently available resources also include federal, state, and county agencies that have projects in and are committed to the prevention of, treatment, and recovery services for prescription opioid use disorder. Some of our partners include:

- Local Management Entities-Managed Care Organizations (LME-MCOs)
- Division of Medical Assistance (DMA)
- Office of Rural Health (ORH)
- Department of Public Safety (DPS)
- Division of Public Health's (DPH), Injury and Violence Prevention Branch (IVPB) and Surveillance Unit
- North Carolina Harm Reduction Coalition (NCHRC)
- Recovery Communities of North Carolina (RCNC)
- Governor's Institute on Substance Abuse, Inc. (GI)
- NC Area Health Education Centers (AHEC)

Section B: Proposed Implementation Approach

B-1. Purpose, goals, and objectives and their performance measures. The primary purpose of the proposed project is to design and implement a plan to address the opioid crisis, founded on the 2016 North Carolina Strategic Plan to Reduce Prescription Drug Abuse, focusing on activities that can realistically be accomplished within the two-year time frame of the grant. Its goals are (1) to prevent opioid use and opioid-related deaths, (2) to treat opioid use disorders, and (3) to maintain recovery. Objectives under each goal and their measures are described below.

Goal 1 seeks to prevent Opioid Use Disorder (OUD) and Opioid-related deaths building on the plan developed by the Community Wellness, Prevention, and Health Integration Section through its Strategic Prevention Frameworks Grants and the Strategic Plan for Prescription Drugs developed through the Policy Academies of which the state has been part. Under the first objective, the proposed project will increase awareness about the misuse of prescription drugs and consequences of their misuse. Strategies to accomplish this objective include a statewide media campaign (the National Family Partnership Lock Your Meds Campaign) as most people who use opioids without prescription for non-medical reasons obtain them from friends and relatives for free (<https://www.cdc.gov/media/releases/2014/p0303-prescription-opioids.html>), curricula training on evidence-based education programs, a prevention and recovery policy summit on prescription drugs and a pregnancy and opioid exposure conference. The measures for the objective are the number of lockboxes and social marketing materials distributed, the number of individuals trained on evidence-based education programs on prescription drug abuse, the number of people attending the proposed prevention and policy summit and the pregnancy and opioid exposure conference.

Under the second objective, the proposed project will expand implementation of evidence-based programs currently used in and funded by SPF grants that address the non-medical use of opioids and prevent opioid-related deaths. Through the proposed project, sub-recipient communities will

receive Technical Assistance or mentoring to deliver evidence based programs and strategies from PFS sites that have demonstrated success in their prevention efforts. The evidence based programs and strategies will include: Lead and Seed program, coalitions to build community capacity to increase or develop local prevention infrastructure, decrease overprescribing by devising and implementing a prescribing alert system for health care system, use of lock boxes to reduce access, increasing proper disposal, and education to increase perception of risk of harm. The measure for the objective is the number of prevention strategies implemented.

Under the third objective, the proposed project will support efforts to reduce over-prescribing. Strategies include training physicians on CDC prescribing guidelines and the use of non-opioid strategies for pain management. The measure for the objective is the number of medical providers trained on CDC prescribing guidelines and use of non-opioid strategies for pain management.

The fourth objective is directed towards the reduction of harm by supporting and funding the use of medications that block or reverse the adverse effects of opioid use. Strategies include training first responders and other individuals on naloxone use and funding the purchase of additional naloxone kits. The measures for the objective are the number of providers trained on naloxone use and the number of naloxone kits distributed.

Table 7. Goal 1: Objectives and Results

Goal	Objectives	Measures
To prevent Opioid Use Disorders and Opioid-related deaths	1. Increase awareness about misuse of prescription drugs and consequences of the misuse	Number of lockboxes and social marketing materials distributed Number of individuals trained on evidence-based education programs on prescription drug abuse Number of people attending prevention and policy summit
	2. Expand implementation of evidence-based programs that address non-medical use of opioids and reduce opioid - related deaths	Number of prevention strategies implemented
	3. Support efforts to reduce over-prescribing	Number of medical providers trained on CDC prescribing guidelines
	4. Reduce harm (support and fund the use of medications that block or reverse the adverse effects of opioid use)	Number of providers trained on naloxone use Number of naloxone kits distributed

Goal 2 focuses on the treatment of opioid use disorders. Under the first objective, the proposed project will increase access to treatment for OUD by increasing the availability of services, eliminating or reducing barriers to treatment, and assisting individuals who are transitioning

from criminal justice or other restrictive settings back into the community. Strategies include promoting telehealth, funding the purchase of FDA-approved medications used for MAT, addressing barriers (e.g., helping those in need of transportation or insurance co-pays or deductibles, assisting with treatment costs, and providing same-day services), and working with providers at Emergency Departments and staff at correctional facilities to get individuals discharged from these facilities into OUD treatment as needed. The measure for Objective 1 is the number of individuals treated for OUD.

Under the second objective, the proposed project will increase access to Evidence-Based Practices (EBPs) for Opioid Use Disorder (OUD). Strategies consist of providing training on MAT and other EBPs that will be used by the proposed project at participating facilities. The measures for the objective are (1) the number of EBPs offered by participating agencies and (2) the number of individuals treated with a specific EBP (e.g., MAT, Seeking Safety).

In order to support EBPs, the DMHDDSAS proposes the development and implementation of Integrated Informatics through an MS SQL database to improve the NC SOTA's ability to implement evidence-based practices. Information processing, communication, and management are key to substance use, mental health and physical health care delivery and considerable evidence links information/communication technology (IT) to improvements in patient safety and quality of care. Currently, the NC SOTA application, registration, inspection and surveillance systems are paper-based processes. The Division will integrate the NC SOTA processes into the NC Controlled Substances Act's Drug Regulatory Utilization Management System (DRUMS). DRUMS is a state-of-the-art MS SQL database utilized to inspect and certify healthcare facilities including methadone clinics as part of the federal and state Controlled Substances Acts. In addition, the Division will develop a functionality within DRUMS to enable OTPs to directly report monthly patient census information into DRUMS. The Division will contract, through the Information Technology Division in NC DHHS, the MS SQL development resources to make the necessary modifications to DRUMS to integrate the NC SOTA processes into a single IT application.

The Division also proposes to improve the dissemination of evidence-based practices while increasing the number of Opioid Treatment Programs (OTP) and Office-Based Opioid Treatment (OBOT) practitioners in North Carolina by contracting for a Drug Control Unit Inspector dedicated to activities related to the SOTA. A dedicated Inspector will expedite, while improving the quality of, the registration processes required under the federal and state Controlled Substances Acts. This Inspector will educate OTPs and OBOT practitioners using evidence based practices while performing at least 60 inspections per year. In addition, the Inspector will be the "super user" of the new MS SQL database module (Drug Regulatory Utilization Management System - DRUMS). The Inspector will train the other Drug Control Unit Inspectors in the utilization of the new DRUMS module.

The third objective is directed towards expanding or strengthening the workforce by opening up training on MAT statewide to providers at non-participating facilities. In addition to training currently provided by the Governor's Institute, the department has committed to examining clinical and administrative policies across all divisions to ensure citizens have access to care and

providers are not unnecessarily burdened. The measure is the number of non-grant participating providers trained.

The fourth objective will enhance and increase the capability of the state's Prescription Drug Monitoring Program (PDMP), the Controlled Substances Reporting System (CSRS) which is housed within the SSA. The DMHDDSAS utilize the CSRS as a prevention and intervention tool by contracting with a Data Analyst to disseminate CSRS data on a monthly basis to all 100 counties in the state. The CSRS Data Analyst will focus on three key strategies which are dissemination for awareness, understanding and action.

The DMHDDSAS proposes to integrate the CSRS and patients' records by creating and maintaining a module that will be embedded within the electronic health records systems of health care facilities across the state. Through the Division's continued collaboration with the North Carolina Hospital Association, North Carolina Medical Board and various healthcare systems, this module will allow prescribers and dispensers, including their delegates, to search a patient's controlled substance prescription history without having to leave their workflow. This will provide healthcare systems, hospitals and clinics the ability to create policies that will provide clear directives to prescribers and dispensers regarding registration and utilization of CSRS information during patient care. To that end, the CSRS would be an even more valuable clinical tool for patient care while significantly increasing registration and utilization throughout the continuum of care. The CSRS Integration Project Manager will oversee and coordinate the integration project between the Division and healthcare facilities including hospitals, clinics, federally-qualifying health centers, and local health departments, among others.

Table 8. Goal 2: Objectives and Results

Goal	Objectives	Measures
To treat Opioid Use Disorders	1. Expand access to treatment for OUD	Number of individuals treated for OUD
	2. Increase the availability of EBPs for OUD	Number of EBPs offered by participating agencies Number of individuals treated with EBPs (e.g. MAT)
	3. Expand/strengthen workforce	Number of providers trained
	4. Enhance/increase capability of CSRS (state PDMP)	Number of providers utilizing the CSRS (state PDMP)

Goal 3 focuses on recovery and support. SAMHSA defines recovery as “(A) process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential” (<http://store.samhsa.gov/product/SAMHSA-s-Working-Definition-of-Recovery/PEP12-RECDEF>). North Carolina has long had a strong commitment to recovery as demonstrated by its history of providing recovery support through a peer certification program at the University of Chapel Hill funded with state and SAMHSA funds, inclusion of family members and consumers in its policy-making bodies, the reimbursement of peer support services by state Local Management Entities/Managed Care Organizations, and the provision of funding to establish or expand recovery community centers and collegiate wellness and recovery

programming. In 2014, DMHDDSAS was awarded an Access to Recovery grant that expanded recovery support services and increased the number of individuals receiving them. Goal 3 reinforces the state's commitment to recovery.

Under the first objective, the proposed project will increase access to recovery support services. The primary strategy will be the establishment of linkages between treatment facilities and recovery support providers. Participating providers will be asked to provide documentation on the recovery support services that have been offered to clients. The measure for this objective is the number of participants receiving recovery support services.

Under the second objective, individuals who receive treatment at a participating provider facility will be offered the opportunity to be actively linked with a peer support specialist. The measure for this objective is the number of participants receiving peer support services.

The third objective is directed towards the retention of participants in recovery. Analysis of 2016 six-month follow-up data on substance use conducted by the Quality Management section of the SSA indicate that only about 21 percent (21.2%) of individuals served by the system completed their treatment. The proposed project plans to use strategies aimed at increasing retention that include the use of check-ups and appointment reminders, text-messaging and apps that have been developed to engage clients in recovery. The measure for this objective is the number of individuals still receiving services six months after intake.

Table 9. Goal 3: Objectives and Results

Goal	Objectives	Measures
To maintain recovery	1. Increase access to recovery and support services	Number of individuals receiving recovery support services
	2. Provide peer support	Number of individuals receiving peer support
	3. Improve retention	Number of individuals still receiving services at six months

Goal 4 focuses on needs assessment. The first objective is focused on the assessment of the needs and capacity of the project. The measure is the production of a report that will be updated annually. The second objective is related to the assessment of project performance measured as the achievement of goals and objectives.

Table 10. Goal 4: Objectives and Results

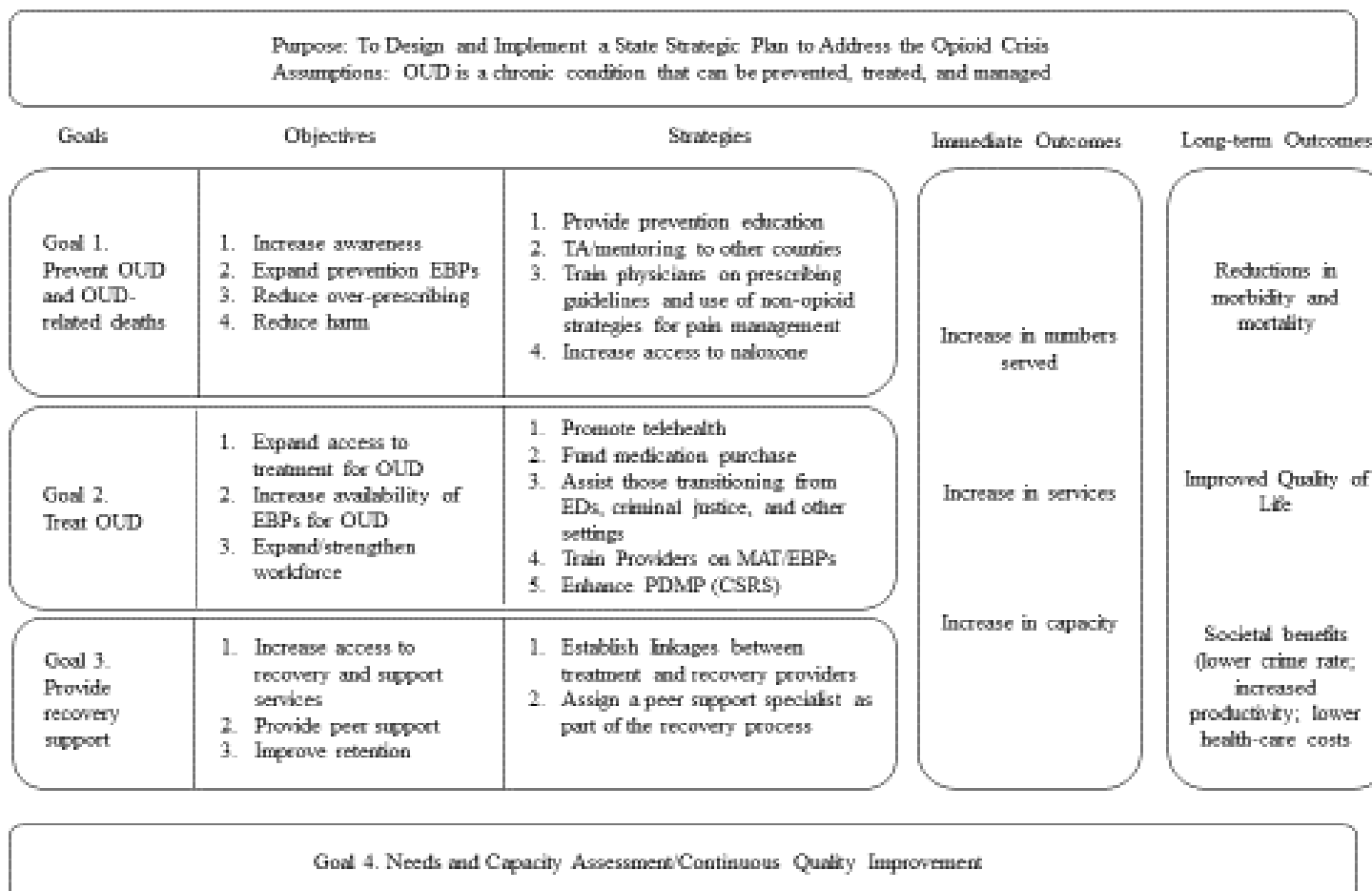
Goal	Objectives	Measures
To conduct assessment	1. Assess needs and capacity	Needs Assessment Report produced and updated
	2. Assess performance	Goals and objectives met

Figure 1 below depicts the framework for the strategic plan showing the purpose of the proposed project, the associations between goals, objectives, and outcomes. Continuous needs assessment and quality improvement undergird the framework.

The framework is based on the assumption that Opioid Use Disorder is a chronic condition that can be prevented, treated, and managed.

Accomplishment of the objectives under each goal is expected to lead to an increase in the number of people with opioid use disorders (OUD) or who are at risk for OUD who are served through the proposed project, an increase in prevention, treatment, and recovery services, an increase in system capacity all of which will result in reductions in morbidity and mortality among individuals with an opioid use disorder, improve the quality of their lives, and ultimately lead to a more equitable society with benefits such as lower crime rates, increased productivity, and lower health-care costs.

Figure 1. Strategic Model



B-2. State and Federal Resources. The Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS) is currently implementing the Access to Recovery (ATR) and the Targeted Capacity Expansion: Medication-Assisted Treatment – Prescription Drug and Opioid Addiction (MAT-PDOA) grants awarded by the Center for Substance Abuse Treatment, and the Strategic Prevention Framework - Partnerships for Success (SPF-PFS) and the Strategic Prevention Framework for Prescription Drugs Grant (SPF-Rx) awarded by the Center for Substance Abuse Prevention.

Access to Recovery (ATR). Obtained in 2014, the 3-year ATR grant award of \$7,866,666 will ultimately provide recovery supports and services to 4,000 North Carolinians through a voucher program that enables individuals recovering from substance use disorders to choose their services and providers freely and independently. Through this program, individuals access services through registered ATR providers who determine their eligibility and issue vouchers based on needs individuals have identified. Vouchers are redeemed by providers after the ATR participant has received the requested service.

ATR provides a variety of services essential to recovery such as help with finding housing and employment. The program has funded practices that facilitate healing and recovery as identified by local American Indian communities. Service coordination and recovery coaching from peers with lived experience who conduct monthly check-ups are given to each individual for the time he or she is enrolled in the program.

As of January 2017, NC ATR has served more than 3,500 participants. Data collected from interviews conducted six months after enrollment into the program and at discharge have consistently shown increased abstinence in alcohol and drug use, higher levels of employment, improvements in housing stability, and social connectedness as well as reductions in inpatient hospital stays and emergency department visits.

Where available, participants of the proposed project will have access to ATR providers for the recovery and support services they need.

Medication-Assisted Treatment – Prescription Drugs and Opioid Addiction (MAT-PDOA). The state received \$2,848,291 in September 2016 to implement MAT-PDOA which is a three-year grant that funds medication assisted treatment for individuals with opioid use disorders. The Division of Mental Health, Developmental Disabilities, and Substance Abuse Services, (DMHDDSAS) of the NC Department of Health and Human Services (DHHS), in collaboration with the Department of Public Safety (DPS), is implementing this project to expand and enhance access to Medication-Assisted Treatment (MAT) services for individuals under community supervision, as well as identified pre-release offenders incarcerated at Black Mountain and DART-Cherry. For appropriate candidates, the program will assess the feasibility of Medication-Assisted Treatment using one of the FDA-approved opioid use disorder treatment medications, including Extended-Release Injectable Naltrexone (Vivitrol), Oral Naltrexone tablets (Revia), buprenorphine (generic brand tablet), buprenorphine/naloxone sublingual (Suboxone), and methadone (liquid or tablet). The program will also routinely incorporate the dispensing of Naloxone (Narcan) Overdose Rescue Kits to program participants and their families, along with the provision of standard education about preventing overdoses, and

responding appropriately to potential overdose emergencies involving individuals, family members, or others at risk in the community. A total of 500 individuals will be served over the duration of the project.

State Prevention Framework -Partnerships for Success (SPF-PFS). In 2013, DMHDDSAS was awarded \$7,537,820 for the five-year SPF-PFS to build on its Strategic Prevention Framework State Incentive Grant (SPF-SIG) and target prescription drug misuse. The State Epidemiology Workgroup, supported through this grant, has been focusing on integrating existing prescription drug use related data across systems to provide county level profiles to inform and enhance prevention efforts. The grant has increased prevention capacity and infrastructure to implement evidence-based prescription drug abuse strategies in thirteen communities or Partnership for Success (PFS) sites experiencing greater than average consequences from prescription medication misuse. The sites function through a collaboration between prevention provider agencies and community coalitions. Using a data-driven process (the Strategic Prevention Framework), each community identified factors with negative impact on their community, and devised and implemented a plan to address them, with an emphasis on sustainable, environmental change strategies. The plans have included activities aimed at decreasing over-prescribing, increasing safe medication storage and proper disposal and promoting the involvement of youth and families in prevention.

The most current NC data on opioid dispensing and unintentional opioid deaths (NC State Center for Health Statistics, NC Controlled Substances Reporting System) indicate that the most impacted counties are geographically very close to existing PFS sites. Most of the counties are small rural counties. The proposed project therefore plans to use a regional TA/mentoring model which builds on the success of PFS counties and expands opioid prevention work to neighboring counties. NC Opioid STR sub-recipient communities will receive TA/mentoring from PFS sites that have demonstrated success in their prevention efforts.

Strategic Prevention Framework – Prescription Drugs (SPF-Rx). The five-year \$1,858,080 SPF-Rx grant was awarded on October 2016. This grant provides prescriber training, a statewide opioid prevention conference, provision of licenses for the Lock Your Meds media campaign statewide; and TA to five counties impacted by opioid misuse. TA resource materials will be available statewide, and successful strategies for curbing non-medical use of prescription drugs across NC in SPF-Rx, PFS, and NC Opioid STR counties will be highlighted and promoted at the statewide opioid prevention conferences that will occur in June in 2017-2021.

CDC Prescription Drug Overdose Prevention for States (PDO-PfS) and Core Violence and Injury Prevention Program (Core VIPP). The Department of Health and Human Services' (DHHS) Division of Public Health (DPH) Chronic Disease and Injury Section's Injury and Violence Prevention Branch (IVPB) has been active in preventing and mitigating the opioid epidemic for over a decade. Medication and drug overdose is a complex epidemic that IVPB is addressing with an array of prevention and intervention strategies. With initial funding support from the Core Violence and Injury Prevention Program (Core VIPP), the Poison Prevention Goal Team of the Injury and Violence Prevention State Advisory Council convened a broad network of injury prevention practitioners, medical providers, partner agencies, and researchers to develop and implement strategic prevention approaches to address the epidemic in North

Carolina. This Goal Team consolidated with a number of other task forces and work groups and morphed into the NC Prescription Drug Abuse Advisory Committee (PDAAC).

NC Prescription Drug Abuse Advisory Committee. In accordance with Section Law 2015-241, Section 12F.16.(m), the NC DHHS PDAAC was established in early 2016. The group meets quarterly and has focused on providing guidance and leadership in: (1) the implementation of the NC Strategic Plan to Reduce Prescription Drug Abuse and (2) the Centers for Disease Control and Prevention's Prescription Drug Overdose Prevention for States Cooperative Agreement awarded to North Carolina through 2019. PDAAC members represent a wide variety of agencies and fields, including, but not limited to: local health departments, healthcare organizations, law enforcement, substance abuse prevention, the recovery community, mental health treatment, harm reduction, emergency medicine, regulatory boards, and many other groups. PDAAC members self-selected into one of five workgroups: Prevention and Public Awareness: Community; Prevention and Public Awareness: Law Enforcement; Core Data; Professional Training and Coordination; and Intervention and Treatment and are in the process of implementing strategies included in their action plans.

Statewide Overdose Prevention Summits. North Carolina's statewide medication and drug overdose Summits were held in July 2014 and July 2015, and will be again in June 2017. Over 200 participants came together at each past Summit organized by the IVPB, UNC Injury Prevention Research Center (IPRC), NC Harm Reduction Coalition, and other partners. These events provided opportunities to share the latest data, prevention strategies, and progress on the overdose epidemic. Overall, the Summits helped provide a shared vision for the state in its overdose work, laying the groundwork for everyone to see how they can contribute towards common goals. The 2017 Summit is being expanded upon and co-hosted with the DMHDDSAS with additional support from the SPF grants.

Prescription Drug Data and Surveillance. Through collaboration with Surveillance Quality Improvement (SQI), dashboards were developed for local departments to monitor prescription drug-related emergency department visits in their counties. Updated data is available daily. Data tables and surveillance statistics are posted on the IVPB website and accessible by all. Under the CDC PDO-PfS grant, IVPB plans to work closely with the Controlled Substances Reporting System, NC's prescription drug monitoring program, to increase data and access for public health surveillance and medical care.

Educating Medical Providers and Promotion of CDC Prescribing Guidelines. The Governor's Institute on Substance Abuse, Inc. (GI) is a statewide organization founded in 1991 to improve how physicians and other healthcare providers prevent, identify, and intervene with substance use issues. The GI has long-standing, strong partnerships with the state's medical schools, the NC Divisions of MHDDSAS and Public Health, the NC Chapter of ASAM, the NC Academy of Family Physicians, NC Psychiatric Association, additional NC healthcare provider groups, the NC Medical Board, regional AHECs, Community Care of NC and other state and federal agencies that are addressing the opioid epidemic in NC.

Through a contract with DMHDDSAS and some support from the CDC PDO-PfS grant, GI has collaborated with the aforementioned groups on a number of successful addiction medicine

workgroups, projects and several websites supporting safer opioid prescribing and addiction medicine efforts in the state (e.g. www.sa4docs.org). The GI also provides a well-attended and reviewed regional Addiction Medicine conference that is now in its 8th year (www.addictionmedicine.sa4docs.org). The conference audience is largely physicians with a sizeable group of PAs and APNs. The conference addresses the needs of both primary care physicians who are new or relatively new to addiction medicine as well as an opportunity for seasoned addiction medicine physicians to get updates, further training and opportunities for case discussion and networking. Last year there were over 270 attendees.

Other resources. In 2014, North Carolina sent teams to SAMHSA's Prescription Drug Abuse Policy Academy and to the National Governors Association Policy Academy for Reducing Prescription Drug Abuse. The state's priorities were identified as building operating systems to monitor prevalence and utilize data to ensure coordinated policies and programs across key agencies, expanding utilization and functionality of the state CSRS system, and using data-driven approaches to eliminate or reduce the impact of prescription drug misuse and abuse. Through these academies, North Carolina received technical assistance to enhance its ability to develop effective strategic plans that increase utilization of evidence-based prevention programs and close gaps in the system while building capacity to incorporate best practices aimed at reducing prescription drug misuse and abuse. The TA provided support for NC in the development and implementation of the State Plan to Reduce Prescription Drug Abuse plan. It further received additional resources to support evidence-based programs that address prescription drug prevention, treatment, and overdose death prevention strategies.

The *Medication-Assisted Opioid Use Disorder Pilot Program* authorized by the General Assembly in the 2016 legislative session (House Bill 1030, Section 12F.1.) requires that DHHS oversee the administration of a three-year pilot program to be conducted by designated Federally Qualified Healthcare Centers (FQHCs) to address North Carolina's growing opioid addiction and overdose crisis. The goal of the pilot program is to study the effectiveness of combining behavioral therapy with the utilization of a non-narcotic, non-addictive, extended-release, injectable formulation of opioid antagonist approved by the United States Food and Drug Administration to prevent the return to opioid use.

The pilot program will enlist (1) patients who are clinically appropriate for the extended-release, injectable formulation of the opioid antagonist and (2) who are willing to receive their medication at FQHC settings. Eligible patients will be asked to participate in a one-year follow-up study, and to agree to allow themselves to be randomly assigned to either receive Vivitrol injections (the VIV condition), or to engage in treatment-as-usual (the TAU condition). The TAU group may receive other medications, including methadone and buprenorphine. Patients will be treated by FQHC staff and will be referred to concurrent opioid use disorder counseling at partnering/coordinating substance use disorder treatment facilities.

As specified in HB 1030, eligibility to participate was prioritized for the seven FQHCs that had recently been awarded HRSA expansion dollars for substance use disorder treatment. The NC Community Health Center Association which oversees FQHCs and Health Centers sent out surveys to the specified FQHCs to identify level of interest. Conference calls were held with six that expressed initial interest. The number was eventually whittled down to four FQHCs: Blue Ridge Community Health Services, High Country Community Health, Lincoln Community

Health Center, and Metropolitan Community Health. Funds from the Substance Abuse Prevention and Treatment Block Grant (SABG) will be utilized to fund medications and services for the VIV group.

The state also utilizes funding from the Substance Abuse Prevention and Treatment Block Grant to fund prevention activities, treatment of the uninsured with substance abuse disorders, and specialty populations. SABG funds have also been used to establish and enhance recovery support services and promote recovery-oriented systems of care.

How NC OPIOID STR will work synergistically with other opioid prevention and treatment activities and not duplicate existing efforts. The proposed project will work in close collaboration with state- and federally-funded initiatives on opioid prevention and treatment activities to ensure that existing efforts are not duplicated. As shown in the resources listed above, most of the programs targeted at opioid use are housed within the Single State Authority, DMHDDSAS. The SSA is also a partner in the *Prescription Drug Overdose: Prevention for States Program* of the Injury and Violence Prevention Branch of the Public Health Division.

Activities planned for the proposed project will complement the opioid prevention and treatment initiatives of the state. For instance, funding for existing training provided to medical prescribers and providers will be increased where appropriate to reach a wider audience. MAT implementation will be expanded from the sites that are currently funded through the Medication Assisted Treatment – Prescription Drugs and Opioid Addiction (MAT – PDOA) to other Opioid Treatment Centers (OTPs) and Office-Based Opioid Treatment (OBOT) clinics. The number of individuals served with treatment and recovery services will be increased over and above the 500 targeted for the MAT – PDOA and the 4,000 targeted for the Access to Recovery Grants so that participants are not counted more than once.

B -3. Timeline for the entire project period. The timeline for the proposed project showing key activities, milestones, and responsible staff is shown in Table 11 below. The timeline also shows that the project can be implemented and begin no later than four months after grant award.

Table 11. Proposed Timeline

Project Steps/Milestones	Milestones	Responsible Party:		
		1 st 3 Mos.	4 to 12 Mos.	Year 2
<i>Start-up:</i>				
Establish Management Team	Staff assigned Meeting conducted	SSA	x	
Hire staff	Staff hired	SSA		x
Establish Opioid State Targeted Response Advisory Committee	Meeting conducted	Management Team (MT)	x	x
Develop/refine/expand existing strategic plan	Plan developed and refined annually	Stakeholders	x	x

Execute contracts	Contracts finalized	SSA	x		
Goal 1. To prevent Opioid Use Disorder and Opioid-related deaths					
Objective 1. Increase awareness	Prevention strategies implemented	MT		x	x
Objective 2. Train providers	Providers trained	Contracted Trainers		x	x
Objective 3. Enhance and increase PDMP use	PDMP SQL database established Staff hired	SSA		x	x
Objective 4. Block or reverse adverse effects of overdoses	Providers trained Kits distributed	Contracted Trainers MT		x	x
Goal 2. To treat Opioid Use Disorders					
Objective 1. Expand access to EBPs for OUDs	MAT and other EBPS offered by participating providers	Provider agencies		x	x
Objective 2. Increase the availability of EBPs for OUD	Participants treated with MAT and other EBPs	Providers		x	x
Objective 3. Expand/strengthen Workforce	Providers trained on MAT and other EBPs	Contracted Trainers		x	x
Objective 4. Enhance and increase PDMP use	PDMP SQL database established Staff hired	SSA		x	x
Goal 3. Maintain recovery					
Objective 1. Increase access to recovery and support services	Linkages between treatment and recovery providers established	MT/providers		x	x
Objective 2. Provide peer support	Peer support provided to participants	Providers		x	x
Objective 3. Improve retention	Strategies (e.g. text messaging implemented)	Contracted agency/providers		x	x
Goal 4. Conduct assessment					
Objective 1. Assess needs and capacity	Needs assessment report produced and updated annually	MT/Evaluator		x	x
Objective 2. Assess performance	Monthly performance reports at sixth month	MT/Evaluator		x	x

B-4. Administrative and infrastructure costs. The major portion of the five percent of the award allocated for administrative and infrastructure costs will go toward expenses related to grant-funded staff who will be hired for the duration of the project. These include wages, fringe benefits, travel, computers, and other supplies. Expenses related to collaborative activities to refine and implement the strategic plan for the proposed project are also included in administrative and infrastructure costs.

B-5. Prevention activities that will be implemented as part of the comprehensive approach to address the opioid crisis. The proposed project will build upon the NC Strategic Framework for

Success – Partnership for Success (PFS) Program and align with and complement the Strategic Prevention Framework-Rx program in the prevention activities that will be implemented as part of the comprehensive approach to address the opioid crisis. Prevention efforts will focus on four areas, each of which is described in more detail below:

1. Implementation of evidence-based prevention practices that increase awareness about the consequences of the misuse of prescription drugs and prevent or reduce the misuse of prescription drugs. The existing media Lock Your Meds Media Campaign directed at reductions in social access. A toolkit will be developed and distributed to communities to build on messaging from the campaign to garner local action on over-prescribing, establish partnerships, promote the use of CDC prescribing guidelines, and educate the public to be safe users of prescribed opioid pain medication. The proposed project will further fund a prevention and recovery policy summit on prescription drugs and a pregnancy and opioid exposure conference.
2. Expansion of prevention EBPs that have been shown to be effective in SPF – PFS counties. The NC SPF – PFS program targeted counties in North Carolina that had high rates of overprescribing and overdose deaths. Data from the state’s PDMP show that counties in geographic proximity to the PFS sites have similarly high rates. The proposed project will expand strategies that have been successfully demonstrated in PFS sites to thirteen surrounding counties with Technical Assistance and mentoring from current sites.
3. Reduce overprescribing. Physicians and other medical providers from OTPs and OBOTs will be trained on CDC prescribing guidelines and will be followed up six months after training to determine whether they have made use of their training.
4. Harm Reduction. Additional training will be offered to law enforcement officers, first responders, and the public to recognize the signs of opioid overdose and administer naloxone. The proposed project will also fund the purchase of naloxone kits.

B-6. Treatment and recovery support services that will be implemented as part of the comprehensive plan to address the opioid crisis. The proposed project will use no less than 80 percent of the award for direct treatment and recovery support services and the professional development of providers.

Treatment will be provided through the state-supported and SAMHSA-certified Opioid Treatment Programs and Office-Based Opioid Treatment centers (OBOTs). Trained providers at the OTPs and OBOTs will determine eligibility of potential participants, provide screening and assessment and formulate a comprehensive and holistic person-centered treatment plan that will match appropriateness of medications and psychosocial interventions with individual needs and goals. Trained medical providers will dispense medications and regularly monitor participants using them. The proposed project will provide funding for laboratory services that OTPs and OBOTs will use for screening and monitoring. A voucher system similar to that used successfully by the Access to Recovery grant will be utilized for behavioral interventions and recovery services, e.g., patients/clients who meet eligibility criteria will be issued vouchers that can be used to obtain various types of recovery supports, as identified in their treatment/recovery

plans. Recovery supports such as transportation, assistance in seeking housing, and peer coaching and mentoring will be available to help participants engage in treatment, remove barriers to accessing treatment and sustain their recovery.

Professional development will be provided directly by DMHDDSAS or through contract with organizations that have the expertise in MAT and other EBPs and linkages with the providers who will be the recipients of training for the proposed project.

B-7. Identification, screening, and retention of the population of focus. DMHDDSAS proposes to establish one highly recognizable, well-advertised statewide number for access to opioid information and services. DMHDDSAS will develop a comprehensive statewide opioid hotline that provides screening, triage and referral with phone, text and chat capacities. This hotline will be staffed with licensed clinicians 24/7/365 who can immediately assess urgency of need and alert 911, CIT trained officers, advanced practice EMTs, mobile crisis teams, etc., if necessary, as well as schedule same-day appointments. The hotline will include a user friendly website with search tools for consumers who want to access opioid use disorder services online, comprehensive information about opioid use disorders and how to access services and supports and a downloadable Motivational Messaging app that promotes positive choices and increases treatment engagement. The system will also have the capability to track all calls and create specified analytics, including timeliness of access to care, abnormal trends by location and type, patient satisfaction, etc.

Outreach will be conducted to recruit potential participants through liaisons with providers at criminal justice facilities, Emergency Departments, and other settings where individuals at risk for drug overdose deaths are likely to be found.

Data from the DMHDDSAS system for individuals with mental and substance use disorders, the NC Treatment and Outcomes Program Performance System (NCTOPPS), show that of 9,536 individuals who received opioid treatment through state OTPs and other state-contracted providers in SFY 2016, only about 21 percent (21.2%) percent completed treatment and about 51 percent (51.2%) did not return at six months after initial treatment (DMHDDSAS, 2016). This finding highlights the need to develop strategies to retain and engage patients in treatment such as technology-assisted interventions using motivational interviewing, text-messaging, apps and the use of other media appropriate for the population of focus.

Consideration of the language, beliefs, norms, values, and socioeconomic factors of the population of focus. The proposed project will ensure the delivery of culturally competent care based on the National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care to which SAMHSA grants are expected to adhere to advance health equity and eliminate health disparities. In line with CLAS principles, diverse cultural health beliefs and practices will be respected, language assistance will be offered to those with Limited English proficiency, and materials will be offered in an easily-comprehensible format in the languages of the individuals served. Participants will be given flexibility in their choice of peer specialists and providers to ensure that they have services responsive to their cultural beliefs. To ensure that the needs of diverse populations are met, the EBPs identified for the proposed project

are those that have been found to be effective for various groups and apply by gender, gender-identity, ethnicity, race, and locations.

The proposed project will further include disaster-preparedness in the treatment plans of its participants so that individuals retain access to their medications and continuity in their treatment when natural and other disasters occur.

B-8. Unduplicated number of individuals who will be provided with treatment and recovery support services (annually and over the entire project period) with grant funds. The proposed project plans to serve 1460 individuals in Year 1 and 1520 in Year 2 for a total of 2980 for both years, which is an 18% increase in the number of patients currently being served in the 53 private and publicly funded OTPs.

Types and numbers of services to be provided and anticipated outcomes are shown in Table 12 below for the two-year grant period. The proposed project will provide screening and assessment, individualized treatment planning, and medications for OUD. In addition, withdrawal management services, basic outpatient services (ASAM Level 1) and enhanced outpatient services (ASAM Levels 2.1 and 2.5) will be available to those identified as needing such types of care. It is anticipated that approximately 65 percent will benefit from recovery support services; e.g., coaching, mentoring, from peer specialists; 65 percent to be in need of will be expected to in need of other recovery support (e.g., transportation, housing assistance). The numbers on recovery support are loosely based on estimates from the NC ATR grant.

Table 12. Types, Numbers of Services to be Provided, and Anticipated Outcomes

Type of Service	Number to Served	Anticipated Outcomes
Screening and Assessment	2980	Appropriate treatment
Individualized Treatment Planning	2980	Appropriate treatment
Medications for OUD	2980	Appropriate treatment/beginning recovery
Withdrawal Management	60	Treatment readiness
ASAM Level 1 services	2235	Appropriate treatment/beginning recovery
ASAM Level 2 and 2.5	723	Appropriate treatment/beginning recovery
Peer support specialists	1937	Retention in treatment/sustained recovery
Other recovery support	1937	Retention in treatment/sustained recovery

How the proposed project arrived at these numbers. The target for Year 1 represents an 8.6 percent increase in the total number of individuals served by the 53 private and publicly-funded OTPs in NC. The proposed project will add another nine percent or 1520 people in Year 2 bringing the total number of additional people to be served to 2980. We believe this is an accurate and reasonable assumption because it will allow individuals to have a choice of medications, and given a choice, more individuals are likely to select medications that are more costly, such as buprenorphine, naltrexone, etc.

How the number is reasonable given the budget request. The number of people served by SSA for prescription and heroin use increased by 19.08 percent between State Fiscal Years 2015 and 2016. The 18 percent increase is reasonable based on the percent change in numbers served. The proposed project will be able to meet its target within the grant period.

The number is also reasonable given the budget request. Based on information from current OTP providers, weekly costs for medications, labs (urine drug screens) and clinical treatment range between \$80 per week to \$120 per week, depending on the type of oral medication. Costs for injectable and implantable medications are higher, although visits are less, but data on those costs specific to NC patients is limited currently. Based on an average cost of \$110 per week/52 weeks per year, the number of people served will be 2980. Dividing the treatment portion of the allocated amount (estimated to be \$16,972,846 for two years) by the total number who will be served over two years (2980) results in an annual per person served cost of \$5,696.

Section C: Proposed Evidence-Based Service/Practice

C-1. System design and implementation model to increase availability of prevention and treatment services. The SSA will establish a Management Team (MT) that will administer the NC Opioid STR grant over the duration of the project. The MT will be composed of the Chiefs of the SSA's Addictions and Management Operations Section, the Justice Systems Innovations Section, and the Community Wellness, Prevention, and Health Integration Section, as well as the NC SOTA Administrator. The individuals who occupy the positions listed above are permanent employees of the SSA who have oversight of the prevention, treatment, and recovery services funded by the Substance Abuse Prevention and Treatment Block Grant and other discretionary grants which are likely to ensure continuity of the policies and practices that will be implemented through the proposed project beyond the grant funding period. The MT will include the Deputy Director who will also act as the Principal Investigator of the proposed project, Project Managers responsible for the Women's Program, the Chief of the Quality Management Section, the grant Project Director, Assistant Project Director, Fiscal Manager and the evaluator.

In addition to the above, the Office of the Governor will identify a position of prominence to coordinate existing strategies, and those identified in the NC Opioid STR proposal. The Office of Governor will establish the Opioid State Targeted Response Advisory Committee and identify members to serve on this advisory committee for the NC Opioid STR proposal which may include members of the Prescription Drug Abuse Advisory Committee, as well as participants at the recently held DHHS Secretary's opioid summit and staff from other divisions within DHHS, as well as other departments.

The system design and implementation model is illustrated in Figure 3 below. The SSA will administer the project through a Management Team that will function over the grant period. It will have responsibility over the prevention, treatment, and recovery services that will be funded through the grant.

Prevention services will consist in the expansion of the activities of the *State Prevention Framework -Partnerships for Success (SPF-PFS)* and the *Strategic Prevention Framework – Rx (SPF-Rx)* by increasing the number of sites utilizing prevention strategies that have been

successfully demonstrated in current SPF-PFS sites and expanding medical provider training on the CDC Prescribing Guidelines and MAT.

The proposed project will expand the current capacity of the NC CSRS by creating and maintaining a module that will be embedded within the electronic health records system of health care facilities across the state. With the continued collaboration of DMHDDSAS with the North Carolina Hospital Association, the North Carolina Medical Board, and various other health care systems, the module will allow prescribers and dispensers, including their delegates to search for a patient's controlled substance prescription history without having to leave their workflow. The proposed project will fund the dissemination of CSRS data on a monthly basis to all 100 counties in the state to improve awareness, understanding, and a platform for change.

The proposed project further plans to integrate the NC SOTA processes into the Drug Regulatory Utilization Management System (DRUMS) of the NC Controlled Substances Act. DRUMS is a state-of-the-art MS SQL database utilized to inspect and certify health care facilities including methadone clinics as part of the federal and state Controlled Substances Act. A functionality will be developed within DRUMS to enable OTPs to report monthly patient census information into the system and automate NC SOTA registration, re-inspection and compliance processes.

The SSA has primary responsibility over the administration of prevention, treatment, and recovery grant funds. It will collaborate with existing prescription drug and heroin death reduction initiatives in the state. The SSA will partner with entities such as the Department of Public Health, the Harm Reduction Coalition, and law enforcement agencies to complement each other's prevention efforts.

The SSA is primarily responsible for the treatment and recovery services that will be provided through grant funds. Opioid Treatment Programs (OTPs) and Office-Based Opioid Treatment (OBOT) clinics will provide Medication-Assisted Treatment, dispensing opioid medications and monitoring their use and providing behavioral interventions that are evidence-based. OTP and OBOT providers will be trained on the EBPs that the proposed project plans to offer to participants. Some OTPs already offer prevention and recovery services (e.g., counseling, peer support, transportation, employment and housing assistance) in addition to treatment services to their clients. The proposed project will actively link treatment providers with recovery support providers funded with federal or state funds so that participants will have greater flexibility in their choice of providers.

The proposed project plans to offer training to participating providers to build up knowledge and skills on the treatment of prescription and opioid use disorders. Workshops on the ASAM Criteria, EBPs such as cognitive behavioral treatment, motivational interviewing, stages of change, etc., will be made available in addition to a two-day Interactive Journaling Facilitator Training which will be piloted in two sites.

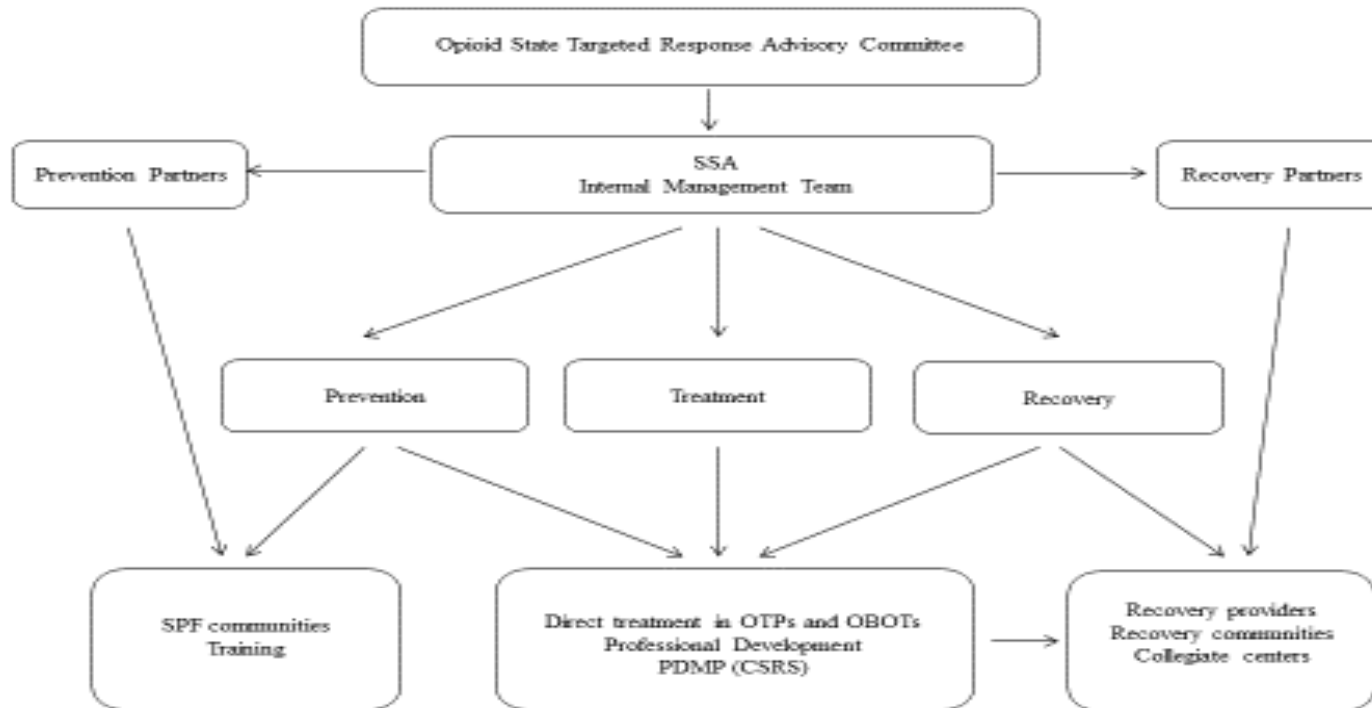
It will also partner with the University of North Carolina at Chapel Hill to expand an existing Extension for Community Healthcare Outcomes (ECHO) for Rural Primary Care Medication-Assisted Treatment (MAT). With the Opioid STR funds we will expand from the current 22 rural target counties that UNC is working with to reach providers in all 100 counties. This would

include primary care providers such as family medicine doctors, internist, OB/GYNs, and pediatricians. Eventually we would also include prescribing mid-level providers. The ECHO model is a mix of video case conferencing with short didactic sessions on a broad array of practical practice based topics, ranging from in depth discussion of urine toxicology screens to discussions about breastfeeding while on MAT, that will enhance and expand access to quality and evidence based MAT while also encouraging collaborative care. UNC serves as a hub with an interdisciplinary team of experts who video conference with small office groups or individual providers and discuss de-identified cases. It helps physicians increase their knowledge and confidence as MAT providers and serves as a natural networking hub for linking patients to state and community resources. Through this expansion, rural and urban providers, those from FQHCs, and OTP providers will have access to the UNC ECHO team. ECHO training will increase understanding about MAT with a focus on reducing stigma.

Participants will be issued vouchers by NC STR Opioid providers who participate in their treatment planning for recovery support services that they can redeem from eligible recovery providers.

Figure 2 depicts the design for the flow of services that will be funded through the grant.

Figure 2. System Design for Services



C-2. Opioid Use Prevention and Treatment EBPs that will be used. North Carolina will utilize evidence-based practices that have been shown to be effective for opioid use prevention and treatment supported by *documentation in the literature*. The choice of EBPs will take into consideration the type and intensity of need based on the patient placement criteria set by the American Society of Addiction Medicine (ASAM), the use of which is required by the state. The criteria utilize information from six dimensions to assess the individual's physical, emotional, and behavioral health, as well as living environment. The six dimensions are (1) acute, intoxication/withdrawal potential, (2) biomedical conditions and complications, (3) emotional, behavioral, or cognitive conditions and complications, (4) readiness to change, (5) relapse, continued use, or continued problem potential, and (6) recovery/living environment. The full and comprehensive assessment, used in treatment and recovery planning, determines where the individual will fall on a continuum of care ranging from early intervention to medically-managed intensive inpatient services.

Medication-Assisted Treatment (MAT). Foremost among the EBPs that the state plans to use in the proposed project is Medication-Assisted Treatment. MAT programs combine behavioral therapy with medications to treat substance use disorders, including opioid use disorders. In the Funding Opportunity Announcement (FOA) for Medication-Assisted Treatment for Prescription Drug and Opioid Addiction (MAT-PDOA), SAMHSA defines MAT as “the use of FDA-approved opioid agonist medications (e.g., methadone, buprenorphine products, including buprenorphine/naloxone combination formulations and buprenorphine mono-product formulations) for the maintenance treatment of opioid use disorder and opioid antagonist medication (e.g., naltrexone products, including extended-release and oral formulations) in combination with behavioral therapies to prevent relapse to opioid use.” Research has shown that when prescribed and monitored appropriately, medications are effective in helping individuals recover by decreasing opioid craving and withdrawal symptoms, blocking euphoria if return to use occurs, and augmenting the effect of counseling. A review of the evidence of FDA-approved medications for Opioid Use Disorder published in the Harvard Review of Psychiatry found positive outcomes related to all three OUD medications (Conery, 2015). However, the use of MAT has been under-utilized. In a 2014 article published in the New England Journal of Medicine, Volkow, Frieden, Hyde, and Cha (2014) report that only slightly more than a third (34.4%) of patients in programs offering MATs actually receive them. The reasons for the low utilization include the limited number of trained prescribers, negative attitudes about addiction medications from who see them as addictive, policy and regulatory barriers, and lack of insurance (<http://www.nejm.org/doi/full/10.1056/NEJMp1402780#t=article>).

The proposed project plans to offer three types of Medication-Assisted Therapies - methadone, buprenorphine products and naltrexone products - to the patients that it will serve. When medication-assisted treatment is indicated, each patient will be appropriately matched to methadone, buprenorphine, or naltrexone. *Methadone* has been used to treat patients for decades and has been shown to be effective in detoxification and maintenance programs. It has to be taken orally once a day and can only be dispensed to the patient at an opioid treatment facility that is certified by SAMHSA and approved by the state authority. Barriers to accessing this treatment include the limited number of OTPs, particularly in rural areas, transportation difficulties, and policies that preclude the use of methadone. *Buprenorphine*, available under the brand names Subutex, Suboxone, and Zubsolv, may be taken orally or sublingually. As these

may be prescribed by physicians in office-based settings, the medication is more accessible than methadone. However, physicians must obtain a waiver from SAMHSA and obtain an additional registration number from the U.S. Drug Enforcement Administration (DEA) to prescribe buprenorphine. Buprenorphine – Naloxone is used for detoxification or maintenance of abstinence among individuals 16 years and older, while Buprenorphine - Hydrochloride is the preferred medication for pregnant women, individuals with hepatitis, and those who are sensitive to naloxone. *Naltrexone*, available under the brand names Depade, Revia, and Vivitrol is recommended for the prevention of relapse. Taken orally or by injection, it requires that patients be abstinent from opioids for a period of time (e.g., seven days) prior to initiation of treatment. A monthly injection (i.e., Vivitrol), instead of daily dosing, may improve adherence to medication. The Division is also exploring the possibility of offering Probuphine as an option to patients. Probuphine consists of four implants that contain the medication buprenorphine. These implants are surgically implanted and last for six months.

Behavioral Interventions. The proposed project will use behavioral therapies cited in the 2016 Surgeon General’s Report *Facing Addiction in America: The Surgeon General’s Report on Alcohol, Drugs, and Health* (<https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf>) in addition to medication.

Brief Interventions (BIs) are provided to individuals who are considered to be at low or moderate risk levels for substance use based on their scores in standardized screening instruments. Brief interventions are typically short in duration ranging from about 5 minutes of feedback and brief advice to 15-30 minutes of counseling. The sessions are also generally fewer, ranging from 6 – 12 (<http://www.integration.samhsa.gov/clinical-practice/sbirt/brief-interventions>). Brief Interventions are a prominent feature of Screening, Brief Intervention, and Referral to Treatment Programs (SBIRT) which have been shown to be effective for the use of alcohol and promising for drug use. DMHDDSAS received a five-year grant to implement SBIRT in 2011 where more than 30,000 patients were screened in physician clinics and Federally-Qualified Health Centers (FQHCs). On-site licensed substance use clinicians provided brief counseling, brief treatment, and referral to treatment to more than 1,000 patients based on their level of risk for substance use disorder as scored by the Alcohol Use Disorder Identification Test (AUDIT) and the ten-item Drug Abuse Screening Test (DAST10). Six-month data showed positive outcomes on abstinence, housing stability, social connectedness, and reductions in hospitalization and Emergency Department visits.

Cognitive Behavioral Therapy (CBT). The most widely used EBP for mental disorders, Cognitive Behavioral Therapy (CBT) was developed by Dr. Aaron Beck in the 1960s for the treatment of clinical depression. It is also considered to be the most effective tool for the treatment of individuals with alcohol and drug use as a monotherapy and in combination with other treatments (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2897895/#S1title>). CBT is present-oriented, goal-directed, and time-limited. It works by modifying thoughts associated with maladaptive behaviors. As used by providers specializing in SUD, it focuses on changing the type of thinking that drives addictive behaviors. Individuals are given homework assignments as part of their therapy.

Numerous studies have identified exposure to trauma as a major factor for substance use disorders (<https://www.samhsa.gov/capt/sites/default/files/resources/aces-behavioral-health->

[problems.pdf](#)). Individuals who have been exposed to or have experienced traumatic events sometimes tend to self-medicate with alcohol and drugs to cope with distress and other symptoms associated with the traumatic event and the Post-Traumatic Stress Disorder (PTSD) that can develop as a result of the event. The Adverse Childhood Experiences (ACES) study conducted by the Centers for Disease Control in collaboration with Kaiser Permanente sponsored by SAMHSA found that adverse childhood experiences are common and linked to physical, social, and behavioral health problems including substance abuse such as alcohol, illicit drug use, and prescription drug misuse and abuse.

The proposed project will provide trauma-informed treatment to participants whose history of substance use shows enduring symptoms traceable to the direct or indirect experience of traumatic events. It will utilize Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) as the primary evidence-based practice that it will implement for children and adolescents. Listed in SAMHSA's National Registry of Evidence-based Programs and Practices, it was further developed by NCTSN which produced the manual that the project plans to use if funded (http://www.nctsn.org/nctsn_assets/pdfs/TF-CBT_Implementation_Manual.pdf). TF-CBT was first developed for child sexual abuse but has since been adapted for other types of trauma including domestic violence, loss, and other issues experienced by children and youth in foster care. It is generally delivered in 6-12 individual or conjoint sessions with the child or youth and the non-offending parent. Its success has been demonstrated in a variety of settings including clinics, school, homes, and residential facilities. It has also been shown to be effective for both male and female, black or African American and white races, and Hispanic/Latinos.

Seeking Safety is an integrated approach for the concurrent treatment of trauma and substance use (Najavits, 2002). The primary concern is personal safety, which includes making life changes such as abstinence from drugs, addressing suicide and self-harm, leaving dangerous relationships, and lowering the risk from contracting HIV and other infections. The program is manualized, typically consisting of 25 sessions. It is flexible and can be delivered by peers in addition to professionals. Seeking Safety is the most studied of all models for the treatment of both PTSD and substance use. A review of treatment studies has demonstrated the effectiveness of Seeking Safety in reducing symptoms of PTSD and substance use and other positive outcomes such as functioning, psychopathology, depression, and coping. It has also been shown to be effective to populations that vary by gender, by ethnicity, race, and socio-economic status, as well as those whose situations are particularly challenging such as those who are incarcerated, homeless, or have committed violent offenses (Lentz, Henesy, and Calender, 2016; Najavits and Hien, 2013). Seeking Safety is listed on the National Registry of Evidence-based Programs and Practices. It is designated as Level A (the highest level of evidence) by the International Society for Traumatic Stress Studies; the Psychotherapy Division of the American Psychological Association describes it as having strong research support; the California Evidence-Based Clearing House reports that it is supported by research evidence for adults and promising evidence for adolescents (www.treatment-innovations.org/cdevid-summary-ss.html).

Matrix Model for Criminal Justice Settings. This treatment program provides adults in a variety of correctional settings including jails, community corrections, probation programs, drug courts, and prisons with the structure of an evidence-based treatment experience and combines education on both substance use and criminal thinking and behaviors. The Matrix Model has

been specifically adapted to meet the unique needs of law-involved clients and includes a focus on criminal thinking, re-entry, and adjustment issues. The program covers individual/conjoint therapy, early recovery skills, relapse prevention, family education, social support, medication-assisted treatment, adjustment or re-entry challenges, and urinalysis, with participation in a Twelve Step program encouraged throughout. The manualized format allows participants across sites to use the same materials—giving a standardized tool for measuring outcomes.

Transtheoretical/Stages of Change Model. Inherent in the interventions used for the reduction or elimination of addictive behaviors is the concept of readiness to change. Many EBPs for opioid use are either built around or include readiness to change as a basic component. Developed by Carlo DiClemente and James Prochaska in the late 1970s and the early 1980s (Prochaska and DiClemente, 2005), the Transtheoretical Model (TTM) or the Stages of Change model has been applied to a variety of behaviors including substance use. The model assesses readiness to change by situating the individual at a particular level (pre-contemplation, contemplation, determination, action, and maintenance) while using strategies to advance him or her to the next level. The model recognizes that most people do not progress through the changes in a linear fashion, anticipating the occurrence of relapse by preparing the individual to get back to the stage he or she was on. Both during the screening process and once a thorough psychosocial assessment has been completed and patients are linked to the appropriate community social and treatment services, providers will need to evaluate their patients' degree of motivation for behavior change and readiness (using a ten-point ruler used in the model) to participate in MAT with buprenorphine, methadone, or injectable Naltrexone.

Motivational Interviewing is used by clinical providers to complement the Stages of Change model. Developed by William Miller and Stephen Rollnick, (2013), motivational interviewing is a client-centered therapeutic strategy that is directed at change through an enhancement of the client's internal motivation and values and the exploration and resolution of ambivalent feelings (<http://her.oxfordjournals.org/content/15/6/707.full>). Participating providers will receive basic and advanced training on motivational interviewing. They will be given information about the technique brief examples of how to use it. They will also be directed to widely available online MI tools.

Justification. The effectiveness of the EBPs that will be used for the treatment of substance use disorders in the proposed project is supported by strong empirical evidence. They are found in SAMHSA's National Registry of Evidence-based Programs and Practices and are listed among the EBPs recommended in the 2016 Surgeon General's Report Facing Addiction in America (<https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf>). Many clinicians in the state are already trained in the behavioral interventions that will be used to complement MAT. Training on Motivational Interviewing (MI) is a requirement for substance use disorder clinicians and the state has Motivational Interviewing Trainers (MINT) who are certified to provide MI. The EBPs have further been found to apply to men, women, the LGBT population, the military, Latinos or Hispanics, whites, black or African Americans, and other individuals in minority groups as well as individuals living in residential or criminal justice facilities. They are moreover, cost effective. Additional costs incurred with the purchase of medications for MAT will be offset by anticipated savings from reduced hospitalizations and Emergency Department visits.

3. Explain how your choice of an EBP or practice will help you address disparities in service access, use, and outcomes for your population(s) of focus.

C-3. How EBPs will address disparities. Disparities in service access, use, and outcomes exist among the population who will be served through the grant. The prevalence of substance use disorders tends to be higher among those exposed to or who have experienced trauma which may be traced to stigma, historical adversity, poverty, or geographic origin. Because members of minority groups and those residing in rural areas are generally at greater risk for disparities compared to their white and urban counterparts, the proposed project has selected EBPs that have been shown to be effective for men, women, the LGBTQ population, for various ethnicities and races, for socio-economic variations, and for both urban and rural locations as well as type of setting (e.g., residential or criminal justice facilities). For instance, Trauma-Focused Cognitive Behavioral Therapy has been shown to be effective for both males and females, black or African American and white races, and Hispanic/Latinos. Seeking Safety has been particularly effective for black or African American and Hispanic/Latino adult and adolescent females.

C-4. Modifications that will be made and reasons for modifications. The proposed project currently has no plans to modify the EBPs it will use. EBP developers will be consulted if modifications are to be made.

C-5. Monitoring the delivery of EBPs to ensure they are implemented according to the EBP guidelines. The proposed project will monitor delivery of EBPs using the fidelity monitoring tools as they are available. Grant-funded staff will monitor fidelity, as well as DMHDDSAS NC SOTA staff who regularly visit and monitor OTP sites.

Section D: Staff and Organizational Experience

D-1. Capability and experience of the applicant organization. The Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS) of the North Carolina Department of Health and Human Resources (NC DHHS), is the Single State Authority (SSA) as well as the State Mental Health Authority (SMHA). It served 138,085 individuals in State Fiscal Year 2016 of which 82,105 had substance use disorders. Of the latter, 19,537 had opioid use disorders, which include non-medical use of prescription opioid drugs and heroin. North Carolina has 53 OTPs with over 17,000 patients dosing daily that use medication, in combination with counseling and behavioral therapies, to provide a whole-patient approach to the treatment of substance use disorders.

North Carolina's OTPs are operated as either for-profit businesses, nonprofit organizations including one through the state's ADATC at Walter B. Jones. Approximately half of the OTPs in North Carolina receive State and Federal dollars; however, most are cash pay. Each OTP operating in NC is approved by the North Carolina State Opioid Treatment Authority (SOTA), within DMHDDSAS, and is responsible for program approval, for monitoring compliance with the regulations related to scope of staff, and operations (10A NCAC 27G.3604).

The agency administers the Substance Abuse Prevention and Treatment Block Grant (SABG), which was allocated \$44,991,909 by SAMHSA in federal fiscal year 2016. It has been awarded a number of discretionary grants from the SAMHSA Center of Substance Abuse Prevention (CSAP) and the Center of Substance Abuse Treatment (CSAT). It is currently implementing the Strategic Prevention Framework Partnerships Grant awarded by CSAP, the Targeted Capacity Expansion: Medication-Assisted Treatment – Prescription and Opioid Addiction (MAT-PDOA) Grant and the Access to Recovery Grant awarded by the Center for Substance Abuse Treatment.

Linkages to the population of focus. As the SSA, DMHDDSAS has the capability and experience in serving the population of focus. DMHDDSAS has linkages and ties to the population of focus funding a variety of services and initiatives for people with SUD, some of them administered by people in recovery. DMHDDSAS further has a legislatively-mandated State Consumer and Family Advisory Committee (CFAC), made up entirely of people with disabilities or their family members, that advises the Department and the General Assembly on the planning and management of the State’s public mental health, developmental disabilities, and substance use services system. It has funded substance use disorder training for physicians since 1991 when it assisted in the creation of the Governor’s Institute on Alcohol and Substance Abuse.

D-2. Capability and experience of other partnering organizations. The proposed project will work with multiple partners in the state, all of which have linkages and ties to the populations of focus.

The DMHDDSAS contracts with seven local management entities/managed care organizations (LME-MCOs) for public behavioral healthcare for the citizens of NC. While they do not directly provide services, their job is to ensure that individuals seeking help receive the quality services and supports they are eligible for to help them achieve their goals and live as independently as possible. To accomplish this, they work alongside a diverse network of private behavioral healthcare providers.

In 1973, the North Carolina Office of Rural Health (ORH) became the first state office in the nation created to focus on the needs of rural and underserved communities. ORH continues to empower communities and populations by developing strategies to improve quality and cost-effectiveness of health care for all. While they do not provide direct care, their programs support numerous health care Safety Net organizations, including the federally-qualified health centers throughout North Carolina.

The Division of Medical Assistance is the agency within the DHHS with responsibility for Medicaid and Health Choice programs. The DMA Behavioral Health Unit works closely with DMHDDSAS to align policies and support EBPs.

The Division of Public Health’s (DPH), Injury and Violence Prevention Branch (IVPB), is the state’s legislatively mandated lead agency for injury and violence prevention. IVPB is tasked with creating and implementing the State’s strategic plan for preventing injuries and violence based on the leading injury causes of morbidity and mortality, including drug poisonings and overdose. Under CDC’s Core Violence and Injury Prevention Program Base Integration

Component funds, the IVPB has focused on building capacity, promoting evidence-based programs and interventions, conducting surveillance and evaluation efforts around drug overdose prevention and other priority injury topics.

The DPH IVPB Surveillance Unit maintains statewide injury and violence related surveillance by providing emergency department, hospital discharge, and mortality data to monitor the incidence of and risk factors for fatal and nonfatal injury, including poisonings due to drugs and medications. It provides this information to North Carolina's health professionals, citizens, lawmakers and others interested in injury and violence prevention in the state. This work is key in establishing an accurate understanding of the burden of overdose in NC. DPH works very closely with local health departments and provides technical assistance and support to community based intervention activities including local standing orders for naloxone. IVPB is also the recipient of CDC Prescription Drug Overdose Prevention for States funding and will align CDC and SAMHSA efforts to leverage funds, experience, and staff expertise to maximize impact in NC.

One of the biggest naloxone distribution programs in the country operates in North Carolina. The North Carolina Harm Reduction Coalition's (NCHRC) goal is to save lives from unintentional drug overdose deaths in NC through various initiatives within their program. The state's overdose prevention and naloxone access law (NC S.L. 2013-23), which NCHRC was instrumental in writing, advocating and building support around in order to get it adopted, allows for broader access to naloxone. Through their mobile naloxone access program, NCHRC's outreach workers have distributed over 40,000 overdose reversal kits across NC and have recorded over 6,065 reported naloxone rescues by lay individuals between 8/1/2013 and 2/17/2017.

Recovery Communities of North Carolina (RCNC) is a grassroots, 501(c)(3) non-profit. Their mission is to promote addiction recovery, wellness, and citizenship through advocacy, education, and support. Statewide activities include: operating a recovery community center in Wake County and providing technical assistance and oversight to four other recovery community centers throughout the state; engaging in stigma reduction activities such as language training, recovery documentary screenings and panel discussions, and rallies; providing direct support through peer services via SAMHSA's Access to Recovery (ATR) grant in cooperation with DMHDDSAS; coordinating ATR implementation throughout the state; and providing education to the peer recovery support service community.

The Governor's Institute on Substance Abuse, Inc. (GI) is a statewide organization founded in 1991 to improve how physicians and other healthcare providers prevent, identify, and intervene with substance use issues. The GI has long-standing, strong partnerships with the state's medical schools, the NC Chapter of ASAM, the NC Academy of Family Physicians, NC Psychiatric Association, additional NC healthcare provider groups, the NC Medical Board, regional AHECs, and other state and federal agencies that are addressing the opioid epidemic in NC. GI has collaborated with the aforementioned groups on a number of successful addiction medicine workgroups, projects and several websites supporting safer opioid prescribing and addiction medicine efforts in the state (e.g., www.sa4docs.org). The GI also provides a well-attended and reviewed regional Addiction Medicine conference that is now in its 8th year

(www.addictionmedicine.sa4docs.org). Integrated care and Medication Assisted Treatment have been particularly strong focus areas of the Governor's Institute for many years. The vast majority of Institute programs and projects serve the public sector, many in rural, underserved areas. The GI's work is based on evidence-based programs and practices and takes a systems perspective, dedicated to addressing systems issues that serve as barriers to evidence based care and optimal outcomes. GI has trained more than 2,000 healthcare providers on addiction medicine issues, safer prescribing practices, co-prescribing of naloxone, improving access to treatment for prescription drug abuse and heroin use, reducing barriers to medication-assisted treatment for opioid use disorders, and registration and use of the CSRS, especially in high-burden areas. These educational, training, and related activities have led to increased CSRS registration and use and contribute to the shifting culture of over-prescribing of opioid medication.

The NC Area Health Education Centers serves as a regional health professions education network in association with the state's four academic medical centers, other universities and community colleges; and, has a 45-year history of establishing community-based training programs for health professionals, students and medical residents. This partnership has brought about high quality, accessible education for health professionals in all 100 counties.

D-3. Complete list of staff positions for the project, including the Project Director and other key personnel, showing the role of each and their level of effort and qualifications.

Staff positions and levels of effort are shown below for the Project Director and other key personnel.

Flo Stein, Deputy Director of the Division of Mental Health, Developmental Disabilities, and Substance Abuse Services is the proposed Principal Investigator. Five percent of her time will be devoted to the proposed project.

DeDe Severino, the Interim Addictions and Management Section Chief, is the proposed Project Administrator, devoting 15 percent of her time to the project.

Smith Worth, the State Opioid Treatment Authority, is the proposed Opioid Treatment Specialist, devoting 10 percent of her time to the oversight of Medication-assisted Therapies at the OTPs and OBOTs that will be implementing MAT.

Sonya Brown, Chief of Justice Systems Innovations, will be the Criminal Justice Population Specialist and the PDMP Specialist, devoting 10 percent of her time to the oversight of activities related to grant-funded recruitment and outreach of individuals involved with criminal justice. She will also have oversight of grant-funded staff and activities related to the PDMP which is housed in her section.

Starleen Scott-Robbins, the Women's Services Coordinator, devoting 10 percent of her time to the oversight of training on and implementation of EBPs for the proposed project.

Sarah Potter, the Prevention Section Chief, is the Prevention Specialist of the proposed project, devoting 10 percent of her time to the oversight of prevention staff and prevention activities that will be implemented.

Maria Erlinda Fernandez is the proposed evaluator, devoting 10 percent of her time to the oversight of data collection and reporting activities for the proposed project.

A full-time Project Director, a full-time Assistant Project Director and a full-time Fiscal Manager will be hired for the proposed project.

Demonstrate successful project implementation for the level of effort budgeted for the Project Director and key staff. The proposed project will hire full-time employees including the Project Director, Assistant Project Director and Fiscal Manager.

The proposed Principal Investigator, Flo Stein serves as a Deputy Director for the Division of Mental Health, Developmental Disabilities, and Substance Abuse Services and acts as the Single State Authority for North Carolina. Ms. Stein started her career in the substance use disorder field in 1971, working in direct community-based service delivery, responsible for developing and leading a crisis service program and a substance use disorder treatment program that targeted individuals from special populations (e.g., criminal justice, women, and individuals with co-occurring disorders). In 1989, she began working for State government and was appointed the Assistant Deputy for Substance Abuse Services. Ms. Stein has provided leadership for several Division-wide initiatives focusing on improving the entire public behavioral health system. From 1998-2000, Ms. Stein chaired the Mental Health and Substance Abuse Redesign Project, an intensive system reform initiative that was co-sponsored by SAMHSA and HCFA. For the past ten years, she has led efforts to facilitate the adoption of science-based practices in community treatment programs, including the sponsoring of conferences and training to build the service capacity of local treatment providers. Ms.2/15/2017 3:54 PM2/23/2017 5:21 PM2/23/2017 5:21 PM Stein is also the Principal Investigator for SAMHSA-funded grants that the state has obtained, including the prevention, substance abuse treatment, and system of care grants. She is the Immediate Past President of the National Association of State Alcohol and Drug Abuse Directors.

DeDe Severino is the Interim Chief of the Addictions and Management Section. She is also the Coordinator of the Substance Abuse and Prevention Block Grant. . She has over thirty years of experience in developing and overseeing substance use disorder prevention, treatment and recovery programs. Ms. Severino earned her Bachelor of Science degree in Psychology Longwood College and her Master's degree in Clinical Psychology from Marshall University. Ms. Severino acts as the SAMHSA liaison for the Substance Abuse Prevention and Treatment Block grant and the Access to Recovery grant. She has a thorough knowledge of clinical, individual practice, including medication assisted treatment, as well as program development and operations. Ms. Severino has a keen knowledge of the needs assessment process, utilizing data to drive statewide planning, and ensuring outcomes are met on a state and local level.

Smith Worth is the Program Consultant for the North Carolina State Opioid Treatment Authority and the Program Administrator for the North Carolina Problem Gambling Program with the

Division of Mental Health, Developmental Disabilities and Substance Abuse Services. She formerly worked as a Clinical Instructor at the Jordan Institute for Families, School of Social Work, and the University of North Carolina at Chapel Hill. Smith has over thirty years as an Addiction Specialist and Employee Assistance Counselor. Smith received her Bachelor of Arts degree in Sociology and Criminal Justice from North Carolina State University and was awarded a Master of Arts degree in Social Work from the School of Social Work at the University of North Carolina at Chapel Hill. She is a licensed clinical social worker and a licensed clinical addiction specialist.

Sonya Brown is the chief of Justice Systems Innovations section for DMHDDSAS and has worked for the Division for over 18 years. She served on the Council of State Governments ReEntry Policy Council; is a member of National Association of State Alcohol and Drug Abuse Directors Criminal Justice committee and the NC Drug Treatment Court Advisory Board; and has been a board member and president of National TASC (Treatment Accountability for Safer Communities). She has worked as the state administrator for the North Carolina TASC Network; as a program manager for McLeod Addictive Disease Center in Charlotte, NC; and as an Adult Probation/Parole Officer for the Division of Community Corrections, North Carolina Department of Public Safety. She has a Bachelor of Science degree in Criminal Justice and a Master of Public Administration from the University of North Carolina at Charlotte.

Starleen Scott Robbins, the Women's Services Consultant, has over 25 years of clinical and administrative experience in the addictions field. She currently serves as a Mental Health Program Manager with the Addictions & Management Operations Section and is the designated Women's Services Coordinator for the Division. In her role with the Division, Ms. Scott Robbins is responsible for coordination of policy development, implementation and clinical monitoring for state-funded substance use disorder and mental health services; management of state and federal funds that support gender responsive substance abuse services for women and their families; coordination of a statewide capacity management system for treatment services for pregnant and parenting women and their families, and provision of technical assistance to substance use disorder programs statewide. Starleen Scott Robbins received her Bachelor of Science degree in Psychology from St. Lawrence University in Canton, NY and her Master of Arts in Social Work Adelphi University in Garden City, NY.

Sarah Potter is Chief of the Community Wellness, Prevention, and Health Integration Section. She has had more than a decade of experience in the field of prevention and substance use. Prior to her employment with DMHDDSAS, she was Director of Program Development with the Illinois Alcoholism and Drug Dependence Association in Springfield Illinois. She earned her Bachelor of Arts degree in Social Work from Southern Illinois University and her Master of Arts degree in Public Administration from Southern Illinois University.

The Project Evaluator will be Dr. Maria Fernandez. She has over 25 years of experience managing projects and evaluating grants within mental health and substance use disorder treatment and intervention programs. Dr. Fernandez has a thorough knowledge of SAMHSA grant requirements and she is experienced in evaluating outcomes and presenting results in a comprehensive manner to stakeholders. Her Ph.D. is in Health Behavior and Health Education from the School of Public Health, University of North Carolina at Chapel Hill. She received her

Master of Art degree in Anthropology from the University of San Carlos in the Philippines where she served as a faculty member of the Psychology Department and senior research associate at the university's Center of Population Studies. She has a Bachelor of Arts Degree in English and Psychology from the University of San Carlos.

The Project Director will have day to day oversight of project activities. The individual who will be hired is expected to have the academic qualifications, expertise in MAT and clinical experience in substance prevention, treatment, and recovery services that will be delivered to the population who are at risk of, have, or are in recovery from prescription opioid use disorders.

A full-time Assistant Project Director will be hired for the proposed project. The Assistant Project Director assist the Project Director in the day to day oversight of project activities. The individual who will be hired is expected to have the academic qualifications, expertise in MAT and clinical experience in the prevention, treatment, and recovery.

The Fiscal Manager will have day-to-day oversight of all financial activities. The individual hired will have the necessary financial management qualifications and experience relevant to NC healthcare reimbursements

D-5. Ensuring input gathered from consumers, clients, and families in assessing, planning and implementing the project. The Advocacy and Customer Service section, which houses the Consumer Empowerment and Customer Services and Community Rights teams, exists to support access to appropriate services and ensure consumer rights protection in the community. This is accomplished through engaging and empowering consumers to become involved in both self-advocacy and systems advocacy. These teams work collaboratively within the DMHDDSAS and the NC DHHS to develop and implement programs to achieve this goal. In response to requests from stakeholders around the state, team members have developed trainings designed to empower consumers in their advocacy efforts. Some examples of these trainings are Reducing Stigma, Advocacy 101, and Choice & Empowerment. These trainings are offered to consumers, stakeholder groups, faith communities, business leaders, and any other groups that are interested. Used in a strategic manner, all of these trainings aim to work towards educating the community at large, and eliminating the stigma and discrimination that still serves as a barrier against self-determination and full inclusion in our communities.

The Consumer Policy Advisor in DMHDDSAS, working in conjunction with the UNC School of Social Work, Jordan Institute for Families and NC State University Institute for Nonprofits, has developed a Nonprofit Management Leadership Development Training Academy. This Academy aims to create a state-wide network of consumer and family member stakeholders with leadership and nonprofit management skills. This network will allow North Carolina to foster the development of Consumer Run/Consumer Operated organizations well into the future. This network will be increasingly relied upon to provide the recovery community support services that are an essential component of a comprehensive recovery-oriented system of care.

Section E: Data Collection and Performance Measurement

E-1. Ability to collect and report on the required performance measures. The grant requires grantees to comply with the standard requirements of the Substance Abuse Prevention and Treatment Block Grant (SABG) standard reporting requirements. It also requires grantees to collect data and report on the (1) number of people who receive OUD treatment, (2) number of providers implementing Medication-Assisted Therapy, (3) number of people who receive OUD recovery services, and (4) number of OUD prevention and treatment providers (including Nurse Practitioners, Physician Assistants, nurses, counselors, social workers, case managers, and others) trained in the prevention and treatment of Opioid Use Disorders; (5) number and rates of opioid use; and (6) number and rates of opioid overdose-related deaths.

The Quality Management Section of the Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS) will be responsible for the collection of data and performance assessment required for the grant project. Composed of eight members, the section includes individuals with expertise in excel, Access, SPSS, and SAS. The section is responsible for meeting the reporting requirements of the Community Mental Health Services Block Grant and the Substance Abuse Prevention and Treatment Block Grant. Its staff has had experience with SAMHSA grants, functioning as evaluators for CSAP, CSAT, and CMHS grants that the state has obtained and in finding ways to sustain the collection of performance measures after the end of grant funding periods.

The primary purposes of the Quality Management Section are (1) to establish the standards and measures of quality for the service system, specifying how quality is defined, monitored and managed; (2) to develop and implement a framework for evaluating the quality of structures, processes and outcomes of the service system and ensuring that data is used to guide policy development and system improvement, (3) to conduct statistical analysis to monitor performance, assess service gaps and needs, and identify and address emerging problems, and (4) to coordinate the development and reporting of goals, measures and results of the block grants from the federal Substance Abuse and Mental Health Services Administration. The section conducts evaluation research, coordinates quality improvement initiatives, and provides statistical support for the Division using the Division's major data systems. The Section has primary responsibility for the NC Treatment Outcomes and Program Performance System (NC TOPPS) and the Incident Response and Improvement System (IRIS). It manages collection of survey data, including administration of National Core Indicators surveys and other DMHDDSAS surveys. It also responds to surveys requested by federal, state, and other agencies. In addition, the Quality Management Section determines methods be used to monitor and improve the population health of NC communities regarding mental health, substance use, and intellectual/developmental disabilities. To fulfill its responsibilities, the Section engages in a diverse range of activities including the following:

- Coordinating the definition of appropriate performance and outcome measures to evaluate the effectiveness of the system.
- Developing and coordinating the state's mechanisms for evaluating and improving system performance.

- Designing and writing technical reports for the federal government, NC Legislature, local and state agencies, and the public.
- Developing and managing the Division's initiatives to collect, analyze, and report information on system performance, outcomes and cost-effectiveness of services, and consumer profiles, adverse events, and perception of services.
- Providing consultation to state and local personnel in use of data to monitor the quality of services and promote improvements.
- Formulating research proposals and grant applications, including the SAMHSA block grants, implementing studies to evaluate special programs and projects and management of contracts related to the above functions.
- Critically examining and analyzing national research and conclusions.

E-2. Description of specific plan for data collection, management, analysis, and reporting. The plans of the proposed project for data collection, management, analysis, and reporting are described below.

Data Collection. The proposed project will use a number of data sources to collect and report on the six measures required by the Opioid STR grant. The North Carolina Treatment and Outcomes Program Performance System (NC TOPPS) and the state's paid claims database will be sources for the collection of data on the number of people receiving OUD treatment services and the number of providers implementing MAT. Data on the number of prevention and treatment providers trained through grant funds will be collected through CSAT satisfaction surveys that will be distributed at training events. The proposed project will rely on NSDUH data on the numbers and rates of opioid use. Data collected by the NC Center for Health Statistics will be used to report on the numbers and rates of opioid overdose-related deaths.

Table 13 shows the data sources and individuals who will be responsible for data collection.

Table 13. Data Sources and Data Collectors for Required Measures

Measure	Data Source	Data Collector
Number who receive OUD treatment	NC TOPPS Paid claims	Service provider
Number who receive OUD recovery services	Voucher management system	Service provider
Number of providers implementing MAT	NC TOPPS Paid claims	Service provider
Number of providers trained	CSAT satisfaction surveys	NC Opioid STR staff
Numbers and rates of opioid use	NSDUH	NSDUH data collector
Numbers and rates of opioid overdose-related deaths	NC Center for Health Statistics	Physician

The primary means of data collection for the first three measures is NC-TOPPS, the state's web-based system for gathering outcome and performance data on behalf of consumers with mental health and substance use disorders in North Carolina's public system of treatment services. Managed by NC DMHDDSAS, NC-TOPPS was launched in 1997 as a partnership between the federal government and the state to implement a system for monitoring and evaluating substance use disorder treatment services. In 2005, items on mental health services were added and the system was moved to a web-based format. NC-TOPPS is managed by the North Carolina Division of Mental Health, Developmental Disabilities and Substance Abuse Services (NC DMHDDSAS). Information generated through NC-TOPPS enables individual providers and local provider agencies to track consumer outcomes and progress and guide them in treatment planning. The system is also used for meeting federal and outcome measurement requirements such as those required for the SAMHSA Community Mental Health Services and Substance Abuse Prevention and Treatment block grant Reports.

NC-TOPPS collects information on consumer outcomes such as symptom reduction, employment, education, retention, housing, family support and criminal justice through a series of interviews over the course of an episode of care - the period that begins with the initiation of services and ends with the termination of services, as defined in the consumer's treatment plan, or by a lapse in services of more than sixty days. Initial, update, episode completion, and recovery follow-up interviews are designed to assist in assessing the effectiveness of treatment. Providers conducting interviews use the NC-TOPPS web-based system to compile data. The initial interview is designed to gather information on consumer demographics and pretreatment behaviors. Update interviews (conducted at three, six, twelve months, and bi-annually thereafter) gather information on consumer behavioral or status changes and treatment outcomes.

The proposed project will also use the claims database that the state uses to reimburse providers for federally- and state-funded services. The information contains detailed information that includes type of service, units of service, service provider identification, amount paid, and reasons for denial of payment.

The number of providers trained will be tracked through satisfaction surveys based on CSAT instruments that will be distributed at each grant-funded training event. Data from the surveys will be entered on an excel spreadsheet by grant evaluation staff. The NSDUH reports will be used to report on numbers and rates of opioid use while the death surveillance reports of the NC Center for Health Statistics will be used to report on opioid overdose-related deaths.

The grant evaluator will be responsible for tracking measurable objectives.

Data Analysis. Analysis of NC TOPPS and claims data will be conducted using the Statistical Package for Social Sciences (SPSS) or SAS. Frequencies and percentages will be generated to determine whether targets have been reached for the specified demographic characteristics of the populations of focus. NC TOPPS baseline data will be compared with data collected at follow-up and discharge to determine whether changes in outcomes have occurred, using t-tests or chi-square analysis as appropriate. Regression analysis will be conducted to determine predictors of specified outcomes (e.g., what demographic factors are predictive of abstinence or reduction of substance use?). Analysis will be broken down by gender, race and ethnicity to determine the

presence of differences or disparities. Data analysis will be conducted by Quality Management Staff and the grant evaluator.

Reporting. Monthly performance assessment reports on the numbers served, the demographic characteristics of participants, and other measures collected by the proposed project. As six-month and discharge data become available, comparisons will be made between baseline and follow-up to determine whether significant changes have occurred as a result of participation in the proposed project. More extensive reports will be made quarterly and annually.

E-3. Quality improvement process that will be used to track whether performance measures and objectives are being met. The proposed project will include performance assessment as a routine item on the agenda at meetings of the management team and the advisory committee. A review will be made of each goal and objective to determine progress made toward each. Quarterly reports will be prepared that will include activities related to each goal and objective as a measure of progress. The QM Section will prepare reports on performance assessment for the project implementation team and quarterly and annual reports for collaborative meetings between DMHDDSAS and participating organizations. QM staff will also assist the Project Director in the preparation of the quarterly and semi-annual reports to be submitted to SAMHSA.

Adjustments to be made. The project management team will formulate an action plan if performance measures and objectives are not met. Progress on the action plan will be discussed at each meeting.

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