Pilot Summary

Introduction

As a response to the national opioid epidemic, for which North Carolina is especially affected, the North Carolina Medical Society Foundation created Project OBOT NC in 2018. ***"The Foundation's overall mission is to improve and increase access to healthcare for all North Carolinians"***. To accomplish this mission, Project OBOT (PO) built a coalition of experts in the identification, treatment, testing, and monitoring of North Carolinians suffering from Opioid Use Disorder (OUD). It did so by partnering with organizations such as UNC School of Public Health, The Governor's Institute, NC Medical Board, Project ECHO and others. PO also invited specific technology partners currently on the front lines of treating these patients and those included LabCorp, Mako, The Recovery Platform, and Pharmacy Collaborative (CPESN).

Understanding that any strategy would require funding, PO reached out to North Carolina Payers interested in doing their part to assist with PO's mission. A plan and proposal which offered high level objectives was developed and Payers provided funding and assistance for the purpose of piloting various approaches with the hope of identifying a viable solution for treating OUD patients while increasing patient access, containing treatment costs, providing outcomes data, and scaling to the most rural areas of North Carolina.

Described below are the steps taken, and the realizations discovered, while following the objectives proposed to the funding sources. The flexibility to innovate allowed PO to learn and develop a comprehensive process and methodology. Through an evidence based approach, Project OBOT has created a unique process to successfully achieve its mission. It is the consensus of Project OBOT that the resulting treatment model should be activated for deployment throughout NC and the United States.

Innovation Process

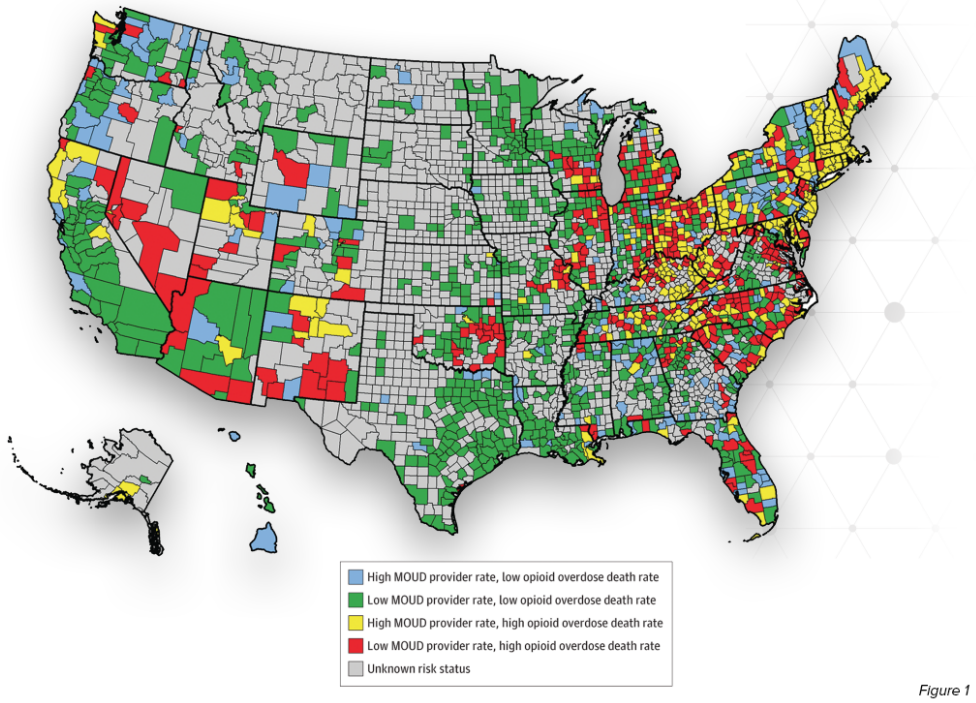


Figure 1

Training more providers to become MAT Data 2000 waivered providers

When the North Carolina Medical Society Foundation initially formed Project OBOT NC (PO) the sole objective was to increase access for patients suffering Opioid Use Disorder (OUD). PO also understood that the most qualified providers to treat these patients were mental health providers, primarily psychiatrists. However, our workforce analysis demonstrated a critical shortage. Therefore, it became apparent that any and all providers were needed to address the access dilemma. Therefore PO initiated a strategy to encourage Data 2000 waivered providers to use their x-number and train more providers to get waiver trained. A new study, published last month (Figure 1), in an open-access version of the Journal of the American Medical Association, classified 412 counties as "high-risk" and 1,485 as "not high-risk." Among those, 41 of North Carolina's 100 counties qualified as "opioid high-risk" counties.

There are an estimated 369,000 abusers of opioids in NC. The illustration below shows that if every certified provider treated the maximum number of patients only one-third could receive care. Therefore, investments were quickly made by PO, and their coalition members to perform Data 2000 waiver training seminars in an effort to create more prescribers. PO sponsored training each month and within five months, sixty six (66) additional doctors were certified.

Provider Type	Data Waiver Patient Level			Totals
	30	100	275	
MD/DO	770	229	155	1154
NP	238	49		287
PA	101	28		129
Totals	1109	306	155	1570

North Carolina provider shortage

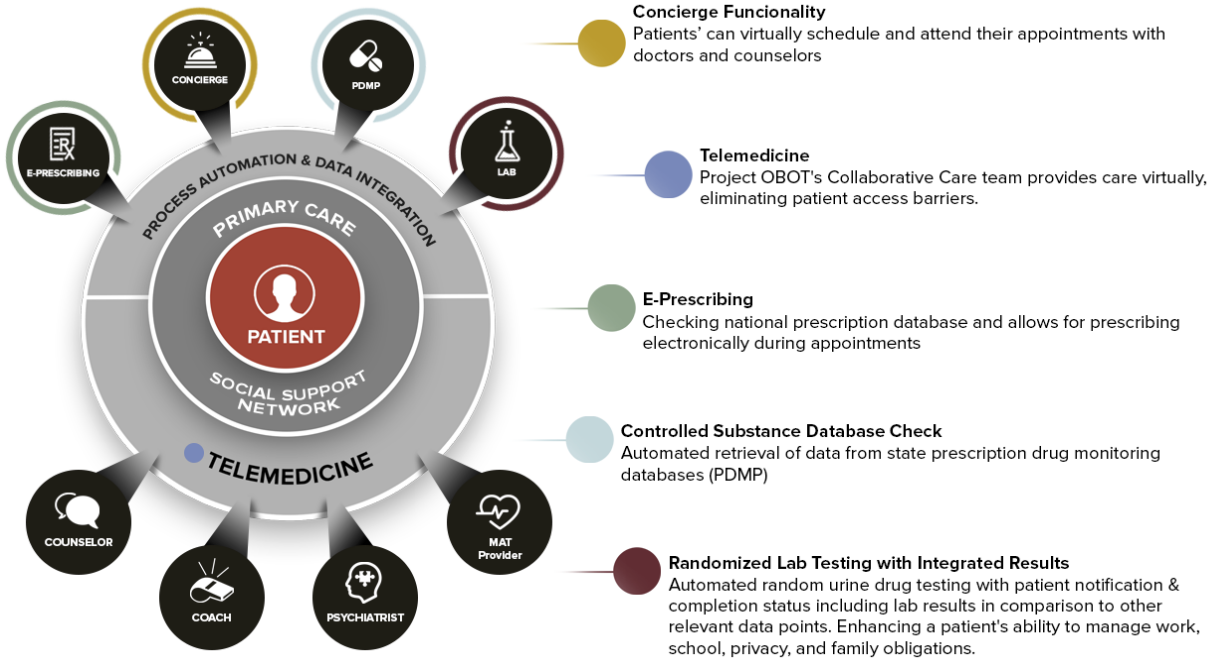
PO also reached out to providers already certified to ascertain the status of their Medication Assisted Treatment (MAT) services and found that, for various reasons, many were not prescribing. Reasons given included:

- Inadequate reimbursement
- Overly burdensome practice compliance requirements
- OUD patient demographics that were not consistent with their population
- Inadequate mental health training
- Stigma associated with the practice of selling prescriptions (pill mills)

Ironically, even the providers PO trained were not inclined to offer widespread services but instead elected to treat a low number of their own patients transitioning from opioid prescriptions. They cited similar deterrents for expanding services when discussing their MAT practice. In summary, it was quickly recognized that Project OBOT could not simply train more providers to solve the problem of patient access to treatment.

Using Technology to Remove Barriers

Initial pilot sites were chosen in existing Primary Care Providers (PCPs) currently practicing MAT with the objective of providing The Recovery Platform (TRP) software to assist them in managing patient compliance and to supplement support services, such as counseling and recovery coaching, when needed. Although their willingness to open their waiting room door to all in need was not a factor at these sites, there were still obstacles such as modifying their MAT practice workflows and their staff adopting an alternate methodology. Although challenging, these changes in work processes were ultimately accomplished. Acceptance of technology, such as telemedicine, was slow but was proven to increase patient's access to the MAT provider. The MAT providers, staff and patients at these practices successfully adopted the process and embraced the technology.

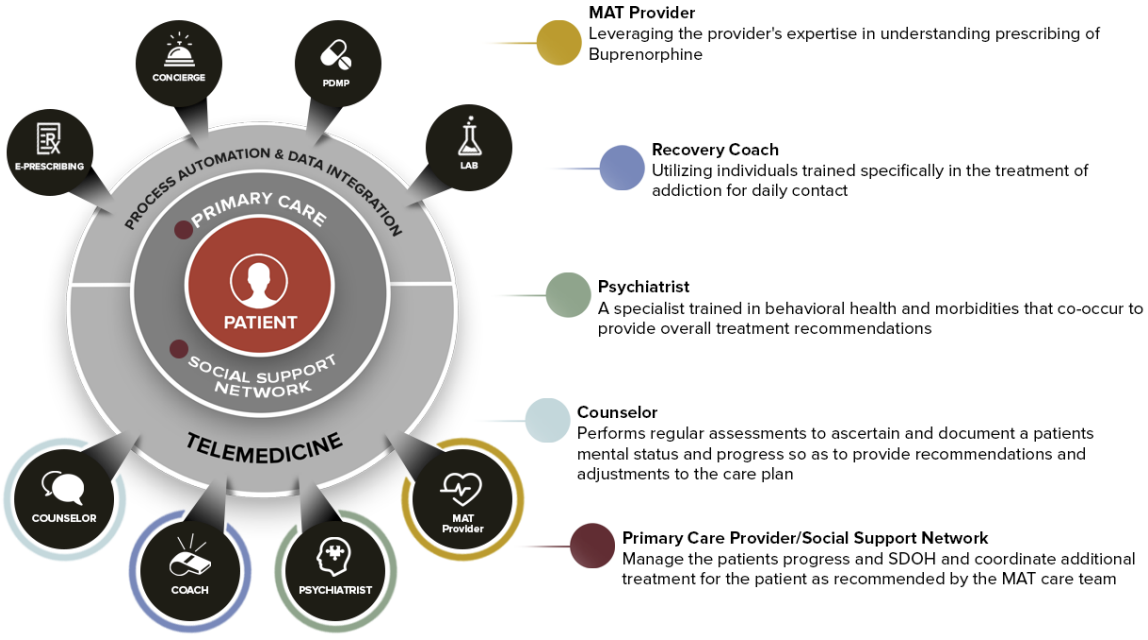


Implementing a Collaborative Care Model (CoCM)

Project OBOT, along with its coalition members, determined the need to innovate a treatment methodology that would entice providers to join in the fight against the Opioid Epidemic. The first step was to create a process that would eliminate barriers such as: bill and collect from carriers, use their staff for scheduling and tracking down patients, force their patients to share their waiting room with illicit users of opioids and to create a network of supporting care team members.

To address these concerns, PO formulated a process that directly contracted and compensated support care team members including counselors, recovery coaches, psychiatrists and pharmacists. Additional functionality allowed patients to self-schedule with providers they were assigned to, whereby the provider need only to post their availability in the TRP system and monitor their schedule daily for appointments. These appointments could be launched with telemedicine. The provider then viewed a dashboard that presented a summary the compliance metrics including counseling attendance, PDMP & Lab results, and the counselors assessment of the patient's progress. Role specific patient charting pages were developed in TRP to promote a collaborative care environment and allow for the sharing of data between care team members.

Soliciting MAT provider participation, from all specialties, with the opportunity to join a "virtual" practice resulted in attracting additional MAT prescribers and eliminated geographical limitations for both providers and patients. We found that the same proposition could be made to other care team members to interest them in part-time participation using technology to facilitate their involvement. Additional care team network development is ongoing and will be discussed below. The resulting initiative to accomplish Network Adequacy has become the foundation of the Project OBOT Model.
Benefits of CoCM: support system for MAT providers not trained in mental health, effective management of specialty expertise which allows for treating more patients with a standardized approach.



REGULATORY CHANGES

Recent regulatory changes allow for prescribing buprenorphine via telemedicine and allows advanced practice providers (APP), such as PAs and NPs, to qualify for DATA waivers.

Critical Role of the Patient's Primary Care Provider (PCP)

Today, when a PCP refers a patient into treatment with Project OBOT, not only can they access the platform to keep apprised of the patient's progress, but can participate by coordinating related care and receive reimbursement. Specifically, when the MAT provider recommends more intensive care from a counselor or psychiatrist beyond PO's service level, the PCP can assist in coordinating that referral to a local provider, and often bill under new care coordination codes. This improves the overall care of the patient, as the PCP is managing the overall health of the person. In effect, the MAT care team becomes an extension of the PCP's practice.

PO identified the need for other support networks beyond medical channels which fall under social determinants of health (SDOH) that the PCP would be asked to manage. These include a patient's vulnerability for accessing food, shelter, transportation, jobs, and other basic needs critical when attempting to break the cycle of addiction. During the pilot, TRP programmed additional questions, when performing the monthly behavioral health assessment, to include the NC standardized questions for SDOH, provided by NC DHHS. Also, PO requested that TRP integrate with NCCARE360, a program launched by DHHS to enable direct enrollment of individuals requiring the services of specific social support agencies and organizations.

Expanding Treatment

Accessing existing practice infrastructure for OUD patients

In other scenarios, Project OBOT has encouraged statewide Health Department facilities, who are not prepared to personally deliver MAT, to offer its physical plant as a location where community members, without a local PCP and suffering OUD, can access the PO virtual MAT program. The PCP, and the Health Department or FQHC, can serve as the patient's medical home, caring for the whole person, and providing a safe space for the person to get virtual treatment when access to a smart device or internet connection by the patient is not obtainable.

Educating OUD patients and local communities that treatment is available

Patients suffering OUD come from all walks of life and this disease focuses on no single age, sex, ethnicity, or socio-economic class. Although there are multiple demographic segments of OUD including retired seniors and working adults addicted to prescription drugs, PO elected to address those individuals we felt most vulnerable. The most vulnerable have been identified as that population of illicit users of opioids, half of which have no insurance and limited financial and social support. These are the individuals most at risk for overdose. Many of these victims struggle to find treatment options they can afford as many have no job beyond the daily effort of doing whatever necessary to avoid the pain of withdrawal. This population consists of pregnant women, women whose children have been put into foster care, non-violent drug offenders being processed by the judicial system, and recreational users that

have allowed opioids to take control of their lives.

Public awareness for this population was a challenge and we relied on our local departments of public health and social services, existing patients of our MAT providers, emergency service organizations, and county departments of social services to identify patients for enrollment into PO pilots. OBOT has gained support and adoption from many social agencies and we anticipate growth in these partnerships.

Cost Containment While Standardizing Quality of Care

PO, serving as a "payer" for the funded Pilots, required a process of negotiating with providers and vendors to reduce and contain costs for treatment in an effort to treat as many patients as possible. To this end, PO found that both providers and vendors were willing to offer deep discounts for their services and products if efficiencies could be achieved for them.

These cost savings came from care team member service discounts. Because of automation processes, PO could minimize time from their practice or distractions to their staff. Almost exclusively, these care team members, including MAT prescribers, psychiatrists, counselors, and recovery coaches, had full-time commitments but wanted to contribute to the mission and it was imperative that PO facilitate this.

This was accomplished with the following PO features:

- Patient self-scheduling
- Automation of PDMP ingestion and analysis
- Automation of lab randomization with result integration and analysis
- Dashboard indicating patient's overall engagement in their recovery
- Chart builder for providers
- Single database allowing for sharing of clinical information across the care team
- Payment to care team for services rendered without claim submissions
- Reports verifying provider adherence to regulatory requirements

For vendors such as Laboratories and Pharmacies PO offered:

- Patient dashboard access eliminating the need to contact the prescriber
- Patient prescription cards verifying participation in the PO pilot with a low cost standardized generic prescription of buprenorphine / naloxone (50% of retail price)
- Integration providing Lab with digital order for the patient and a specialized MAT panel

Typical Outpatient Treatment

- Inconsistent use of PDMP
- Non-random lab screens
- Physician based counseling
- No attempt to taper meds
- Excessive lab testing

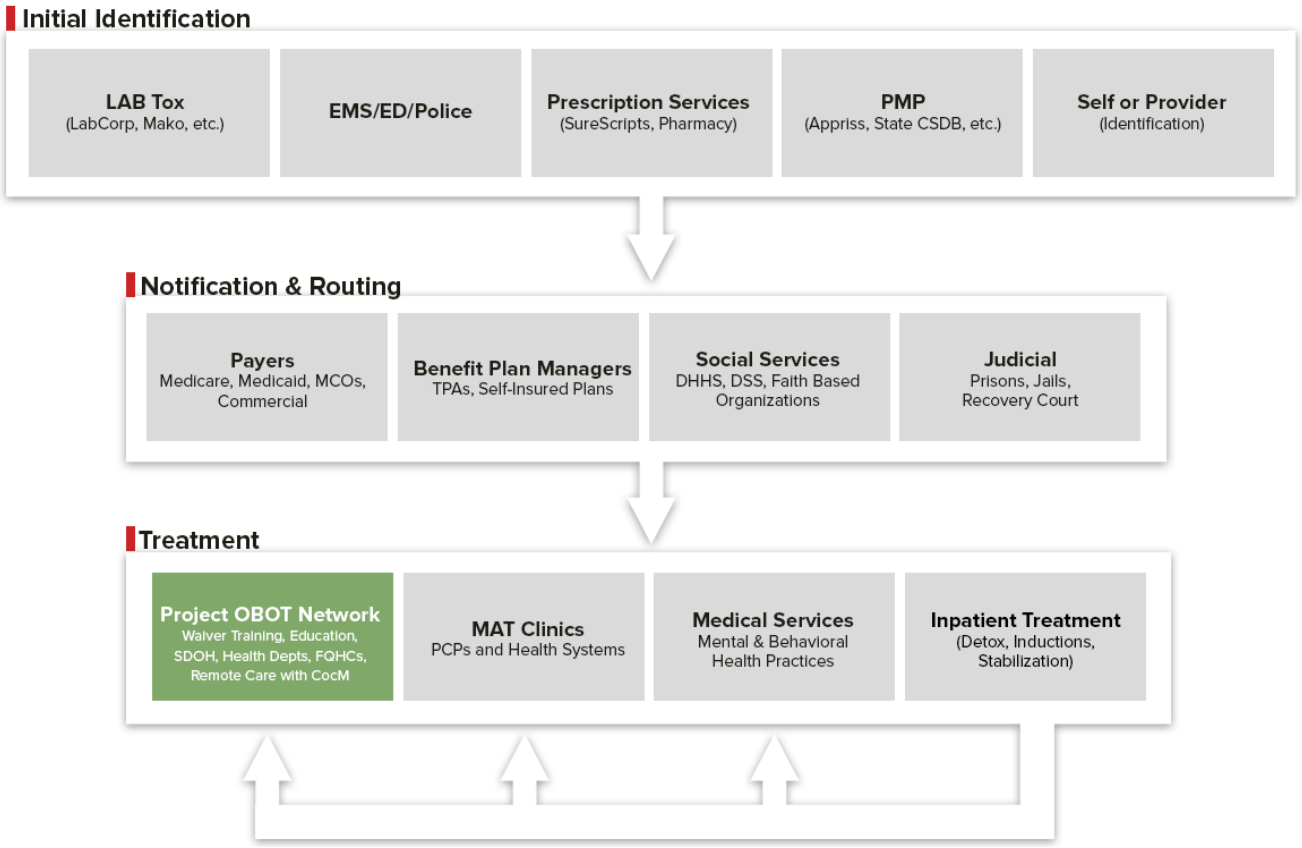
$8,294 not including Medication (annual cost)

Compared to No Treatment

- A 2016 Study on the cost of people with OUD that go undiagnosed and untreated indicated an additional $14,810 in healthcare costs

Opioid Treatment Eco-System

The illustration below describes the current mechanism in which patients suffering OUD are identified and referred into various treatment models by those responsible for providing care.



Pilot Analysis

WHO WE ENROLLED

General

Employed	**34.9%**
Married or in a relationship	**52.2%**
Gender (female)	**48.9%**
Criminal Record	**56.5%**

Technology

Smartphone Access	**88.9%**
Access to reliable internet connection	**91.1%**

Behavioral Health

History of mental illness in family	**60%**
Feelings of guilt or worthlessness in the past 3 months	**50%**
Feelings of Hopelessness or helplessness in the past 3 months	**42.2%**

Treatment

Have Overdosed	**24.4%**
Have relapsed from recovery	**68.9%**
Less than a month or not in treatment for addiction	**40%**
Have been in treatments previously for addiction	**70.5%**
Began using drugs prior to the age of 25	**77.8%**

Delivering a SAMHSA compliant program in a virtual environment

By providing a robust, customized, purpose built technology solution, PO was able to configure the platform with a compliance based individualized patient care plan and a dashboard for care team members flagging non-compliant behavior.

The dashboard further empowered the prescriber to look at the entirety of the patient's behavior over time including:

Counseling Attendance

Coaches Engagement Analytics

Psychiatrists Expert Recommendations and Comments

Counselors Evidence Based Assessments

Along with employing the power of telemedicine to increase patient's openness, enhance provider's objectivity and eliminate the "pressure" of writing prescriptions when questionable, PO produced an environment for the prescribers that allowed them to quickly review the patient's performance and progress so as to challenge them when necessary to be more compliant. Patients in the PO program understood and agreed to the possibility of being referred to an alternative program offering more intense oversight if participation in OBOT was not successful for them.

Patient Progress and Compliance

Patient engagement was **84.21%** for counseling and **93.06%** for coaching, indicating the methodologies utilized were much more effective than traditional approaches.

Automated PDMP searches performed before every MAT visit indicated **0%** seeking behavior during their treatment period **78%** of patients were found to have completely discontinued use of opiates or illicit drugs due to randomized Lab screens.

Utilizing evidence based assessment tools, we found that **84%** of patients showed improvement based on COWS and **71%** showed improvement in multiple areas of the BAM score.

Only **1 patient** continued to show moderate issues related to withdrawal and it was found that their participating in coaching sessions was **5 times** less than that of the average patient.

OUD patient retention in MAT programs

Data suggests that patients typically stay in MAT for only short periods of time, often less than five weeks before relapsing. It is a common belief among treatment professionals that relapse is part of recovery. Although this may be true, PO felt it imperative to understand why patients relapse and what tools might be developed to help delay or prevent this inevitability. Our results below demonstrate that patients in PO pilots did use illicit drugs during their treatment and, therefore, a mechanism of responding to this fact required innovation and context.

Early in the pilot, Dr. Karen Smith, an accomplished MAT provider and a mentor to PO, suggested that recovery coaching needed to be a core feature of our treatment model and that technology to manage the practice should be developed. PO asked TRP to develop a patient-facing mobile application that would enable recovery coaches to access groups of patients based on their care plan and stage of recovery, engage them with content designed to encourage, educate and solicit feedback related to their state of mind, progress, and satisfaction with the program.

40% of enrollees in the project had been in active recovery for less than one month, yet we had a 100% retention rate for participants (with the exception of an individual who became incarcerated). Furthermore, over 70% had previously tried another program that did not work for them.

In response, TRP began development of the mobile application it calls Recovery Connect. From this product recovery coaches can manage an increased number of patients and engage the patient through text messaging without relying exclusively on telephone and/or personal face to face contact.

The average patient lives 23 miles from the physician, but with 155 visits (70%) performed via telemedicine they saved approximately 118 hours of drive time during the pilot period.

We believe our success with MAT retention is directly related to PO's ability to use technology to engage the patient on a weekly basis and further that recovery coaching will be the most critical component of MAT and a likely replacement of group counseling.

Patient Feedback

An average score of 9.5 out of 10 was received for "How likely would you be to recommend this type of treatment program to another person (with 10 being very likely)?"

An average score of 8.6 out of 10 was received for "How easy was it for you to complete all of your sessions for this program?

You can compare to other treatment programs you have been in the past (with 10 being very easy)?"

"Easy on my schedule, no social anxiety involved, have "me" time to reflect on each topic."

"It is has been nice to talk with someone one on one and discuss the issues I have. He has made plans and given specific assignments to help me in my recovery journey."

"I enjoyed having personalized sessions on topics related to my life and the flexibility."

How much better are you in taking care of personal responsibilities?

"I probably wouldn't still have my job if I hadn't gotten into recovery. I have been at my job for a little over a year and a half and take on a lot of responsibility there. I am helping pay bills at home now and have even managed to buy a car. I have plans for my living room. I need to work on following through with something."

I'm definitely taking care of things that I should be I still need to work on getting my license."

Are you a better member of the community?

"I stay out of trouble now. I don't carry things on me that are illegal, I always had to worry about seeing or talking to a cop. I am going to register to vote soon. People around me don't think I am high all the time."

"I'm sure I broke laws on a daily basis back then, now I have no fear of law enforcement."

How much better are you with drug and alcohol use?

"I'm living an entirely different life than I used to."

"I'm very strong minded and have a lot of willpower"

"I feel like the old me"

Has your Health Improved?

"I like having a clear mind and being able to think clearly. I have energy and don't just think about doing stuff. I actually get up and do things. I sleep every night now, when I used to stay up for days and sleep for days. Living a "normal" life."

"There's still numerous health concerns I need to deal with, but that comes with time."

Summary

Project OBOT's objective was to design and test a method for treating victims of OUD . We believe we have successfully accomplished the challenge of innovating a workflow, managed with a technology platform that increases patient access, retention, and compliance. During development, PO improved quality of care by employing a collaborative environment for a multi-disciplinary team while standardizing treatment workflow. This process also proved to reduce the cost of treatment by providing automation and clinical decision support along with the economies associated with volume purchasing of medication and lab screenings.

When asked "How likely would you be to recommend this type of treatment program to another person?" the average rating from patients was 9.5 out of 10. Patient feedback indicated they were pleased with the quality of service and ease of use due to the utilization of technology. While providers on our care team shared that the system's improvement in efficiency and reporting, due to the access of a dashboard offering a view of the patient's compliance, reduced their apprehension related to practicing MAT.

Project OBOT believes that payers should adopt this process and reimburse Per Patient Per Month, for a virtually delivered comprehensive outpatient MAT treatment program. Project OBOT's Network Managed program employs the methodologies, described in this document, and offers providers and patients a best practice solution to combat the cost of this Opioid epidemic both in terms of money and lives.