CO-SLAW Colorado Opioid Synergy Larimer and Weld

'Treat Addiction. Save Lives.'

Colorado Opioid Synergy Larimer and Weld

Annual Report 2021

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UNIVERSITY of DENVER
BUTLER INSTITUTE FOR FAMILIES
Graduate School of Social Work

Acknowledgments

This report represents a collaborative effort by the Colorado Opioid Synergy Larimer and Weld (CO-SLAW) network and Butler Institute for Families at the University of Denver Graduate School of Social Work. We would like to thank the CO-SLAW providers, stakeholders, and members for their participation.

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Introduction

In September 2018, the North Colorado Health Alliance was awarded a Medication Assisted Treatment – Prescription Drug and Opioid Addiction (MAT-PDOA) grant from the Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Substance Use Treatment (CSAT) for their Colorado Opioid Synergy Larimer and Weld project (CO-SLAW). CO-SLAW is a group of eight behavioral health and primary health care provider clinics and community-based stakeholder organizations with the shared goals of expanding and enhancing access to medication assisted treatment (MAT) services for individuals with opioid use disorders (OUD) in Larimer and Weld Counties. Providers include:

- The Behavioral Health Group
- Colorado Treatment Services
- Family Medicine Center Ft. Collins
- Front Range Clinic
- North Range Behavioral Health
- SummitStone Health Partners
- Sunrise Community Health
- Salud Family Health Centers
- Northern Colorado Health Network

Using a comprehensive approach based on a shared treatment philosophy and case management, CO-SLAW aimed to increase MAT for OUD to a minimum of 350 newly engaged individuals in Larimer and Weld counties, reducing the treatment gap by 10% over the three year funding period from October 1, 2018, through September 30, 2021. Individuals engaged in CO-SLAW are referred to as members.

In the third year of funding (October 1, 2020, to September 30, 2021), CO-SLAW met or exceeded its goals and objectives. CO-SLAW member-level outcomes show the project has positive impact six months after intake, with members reporting reduced levels of substance use and increased positive outcomes on a range of psychosocial indicators including mental health, employment, and housing.

The COVID-19 pandemic persisted throughout year 3. Nevertheless, because of high vaccination rates and ongoing masking, clinical services were able to resume in person. Services also continued to be provided through telehealth to support treatment access and engagement.

Population

CO-SLAW operates in Larimer and Weld counties, two large, rapidly-growing counties in Colorado. Larimer County's 2020 population was 359,006, up from 341,621 in 2019. In Larimer County, 11.9% of the population identifies as Hispanic, 2.7% as two or more races, 1.2% as Black alone, 1.1% as American Indian or Alaska native,

and 2.4% as Asian alone, with approximately 39% of the population living in a Health Professional Shortage Area (HPSA) and 10.5% of people living with poverty. Weld County had a 2020 population of 324,492, up from 293,855 in 2019. In Weld County, 30% of the population identifies as Hispanic, 2.3% as two or more races, 1.6% as Black alone, 1.7% as American Indian or Alaska native, and 1.8% as Asian alone, with 19.3% speaking a language other than English in the home, 8.4% living with poverty, and 8.7% being foreign-born (United States Census Bureau, 2020). Weld County is dually recognized as both a Medically Underserved Area (MUA) and a Health Professional Shortage Area (HPSA; Colorado Department of Public Health and Environment [CDPHE], n.d.) and is also known for having a significant immigrant workforce in its local meat-packing and agricultural industries. Both counties also serve a significant Veteran population (18,144 individuals) being in such close proximity to both the Cheyenne Veterans Affairs Medical Center and the Denver-based Veterans Affairs Health Care System. Larimer and Weld counties also have high percentages of young adults (ages 18-25), due to both local community colleges and large state universities in each county, a sub-population known for having the highest prevalence of OUD and opioid/pain reliever misuse across the country (Substance Abuse and Mental Health Services Administration [SAMHSA], 2017).

Substance Use Prevalence

Colorado ranks in the top ten states for substance use in the past 30 days (SAMHSA, 2018). There were 1,477 overdose deaths statewide in 2020, up from 1,072 in 2019, with 110 deaths in Larimer and Weld Counties (CDPHE, 2020a). Importantly, the rate of overdose deaths among Black Coloradans in 2019 was the highest since 2000 and was significantly higher than the rate for non-Hispanic Whites in 2019 (CDPHE, 2020b). Rates of substance use disorder (SUD) may have risen in response to the social isolation and economic stress that has accompanied the COVID-19 pandemic along with the virus itself impacting people with SUD at disproportionate rates (Schimmel & Manini, 2020). These statistics combined with the ongoing COVID-19 pandemic point to the continued need for the opioid use disorder treatment services CO-SLAW provides.

Evidence-Based Practices

CO-SLAW's care coordinators and network of behavioral health and primary health care providers support treatment and recovery for members with opioid use disorder (OUD) using a range of evidence-based practices. **All members enrolled in CO-SLAW receive comprehensive treatment for opioid use disorder in addition to case management provided by the team of CO-SLAW care coordinators.** CO-SLAW care coordinators are assigned to specific providers including Larimer County Jail and emergency departments but work closely with their colleagues to ensure members receive coordinated care regardless of where they receive treatment.

Screenings and Assessments

CO-SLAW care coordinators use the Treatment Needs Questionnaire (TNQ; Brooklyn & Sigmon, 2017) to assess members' biopsychosocial needs. Providers also use the:

- Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001), a valid and reliable brief measure of depression
- GAD7 (Spitzer et al., 2006), a valid and reliable brief measure of anxiety
- Drug Abuse Screening Test (DAST-10; Yudko et al., 2007)
- Opioid Risk Tool (Webster & Webster, 2005)

- Addiction Severity Index (McLellan et al., 1980)
- Clinical Opioid Withdrawal Scale (COWS; Tompkins et al., 2009)

Behavioral Interventions

The CO-SLAW care coordinators practice both patient-centered case management (Kerr & Birk, 1988) and intensive case management (Morgenstern et al., 2006). Peer-recovery support is offered through the CO-SLAW care coordinator/peer specialist. Motivational interviewing is used across all providers and CO-SLAW care coordinators to boost engagement in treatment. Cognitive behavioral therapy (Hazlett-Stevens & Craske, 2004) and trauma-specific interventions, including Seeking Safety (Najavits, 2002), are used across the network, as is the Matrix Model (Georgeson, 2009) and Living in Balance (Hoffman et al., 2015) evidence-based practices.

Medication for Addiction Treatment

As a cornerstone of the CO-SLAW project, a range of medication for addiction treatment (MAT) is offered across the eight CO-SLAW providers as clinically indicated, including methadone, buprenorphine, and naltrexone. Naloxone is also offered to all members and to the family and friends of members in clinic and at community events as described in this report.

Risk-Management Plan for the Diversion of Methadone or Buprenorphine

As a network, and because CO-SLAW does not dose members directly, CO-SLAW defers to each provider's risk-management plan. Each provider in the network has a well-established diversion risk-management plan. Diversion risk reduction is also discussed in CO-SLAW project team meetings and during outreach presentations as appropriate to address any concerns.

Prescriber MAT Data Waivers and Practice Fidelity

CO-SLAW defers to its providers to ensure all prescribers have the appropriate waivers and clinical supervision structures in place to ensure practice fidelity. Each provider is licensed by the appropriate state regulatory agency. As part of its program activities, CO-SLAW offered one waiver training in year two hosted by Associates in Family Medicine in Fort Collins with 7 total participants from 4 providers. In addition, CO-SLAW continued the Colorado MAT Learning Forum, a monthly virtual learning community for practitioners and administrators, with 157 participants across 8 sessions in year 2. The Learning Forum covers a range of topics, including addiction and chronic pain, MAT discharge practices, and alcohol use disorders and MAT among others.

Progress Toward Goals and Objectives

The CO-SLAW project goals were to:

1. Increase capacity to provide MAT to individuals with OUD in northern Colorado through specific and deliberate collaboration and coordination among CO-SLAW MAT treatment sites, including Opioid Treatment Programs (OTP), and shared care management of persons treated with MAT.
2. Initiate MAT and concurrent evidence-based psychosocial (EBP) treatment in 350 individuals (117 per year) with OUD within the CO-SLAW network of care.

3. Initiate MAT in individuals with OUD experiencing transitions of care from hospitals, emergency departments (EDs), and incarcerated settings with formal referral into the CO-SLAW network of care.
4. Establish at least 1 hub as an addiction treatment center with identified workflows for shared management of patients who need methadone treatment in northern Colorado to serve at least 10 of the total patients served in year 3.

At the end of year 3, CO-SLAW met or exceeded all anticipated outcomes as shown in Table 1. Tables 2-4 detail CO-SLAW's success in meeting the stated annual goals and objectives as they relate to SAMHSA's required activities. Required activities listed in Tables 2-4 were truncated for space.

Table 1. Anticipated and Actual Outcomes

Anticipated Outcomes Years 1-3	Actual Outcomes Years 1 - 3
Committee to meet monthly	Northern Colorado Collaborative for Addiction and Recovery Supports (NOCO CARES) met quarterly; CO-SLAW project team met twice monthly October 2019 – April 2020. Meetings are now held monthly.
Establish a common assessment tool across sites	CO-SLAW leadership selected and implemented the Treatment Needs Questionnaire in year 1.
Written and implemented CM protocols, ROIs, and MOUs	Written and implemented CM protocols, ROIs; BAA/QSOA and Care Compact executed in year 1.
Implementation of OpiSafe	In collaboration with the clinical team, OpiSafe developed and launched a care coordination platform on March 17, 2020, in which all care coordinators document member care. This system remained in use throughout year 3.
Provide education to at least 40 professionals on MAT; 20 providers and administrative leaders trained on initial MAT dosing and referral	In year 3, one waiver training hosted at North Colorado Family Medicine in Greely and two post-waiver follow-up trainings were held online. In addition, two safe prescribing sessions were held at the Garcia House residential treatment program.
1 care coordinator to complete peer-recovery coach training	Two peer coaches, one of whom is bilingual, are in the process of certification. As of this report, they have completed 45+ hours of the 60 required for certification. Two care coordinators have lived experience, one of whom has a peer certification.
117 individuals per year to receive MAT and concurrent psychosocial treatment and demonstrate reduction in substance use	A total of 336 people (118 in year 1,119 in year 2, and 99 in year 3) were treated with MAT and concurrent psychosocial treatment including care coordination with statistically significant reductions in substance use and mental health symptoms at 6-month follow up.

90 individuals outreached on Project CO-SLAW and MAT	In year 3, 296 naloxone kits were distributed; 188 of these were distributed at Overdose Awareness Day events.
At least 10 individuals per year received their initial MAT dosing in transition of care site	490 members n year 3 received MAT in Larimer County Jail (LCJ). At UC Health, 46 individuals received Suboxone inductions, 32 of these transitioned to a CO-SLAW MAT provider in the community (14 transitioned to withdrawal management or already had a provider). Twenty-five clients remained engaged at the 3-month mark. Nine clients transitioned from a Banner Health emergency department to a CO-SLAW provider.
Signed MOU and written and implemented referral protocols for care entities (i.e., hospitals, jails) for individuals with OUD as measured by number of referrals	A total of 1,064 individuals in the LCJ were referred to and assisted by a CO-SLAW care coordinator over the three-year funding period. 41 clients in UC Health or Banner Health emergency departments were referred to and assisted by a CO-SLAW care coordinator in year 3.

Table 2. Goal 1

individuals with OUD in northern Colorado through specific and deliberate collaboration and coordination among CO-SLAW MAT treatment sites, including OTPs, and shared care management of persons treated with MAT.		
Required Activity	**Objective**	**Progress**
Build funding mechanisms and service delivery models with rural and resource-limited organizations	**Objective 1.1.** By year 1, month 2, 2 monthly meetings of the Northern Colorado Opioid Prevention Work Group (Work Group) and its subcommittee, the Northern Colorado Hub & Spoke Operations Committee (Committee), will have occurred. These groups will (i) draft a Memorandum of Understanding (MOU) to be signed by all 8 sites, (ii) draft a shared Release of Information (ROI) for use by all sites, and (iii) select a common treatment assessment tool for use by all sites.	✓ **Objective 1.1 was attained on schedule.** The Northern Colorado Opioid Prevention Work Group rebranded as Northern Colorado Collaborative for Addiction and Recovery Supports (NOCO CARES) and meets quarterly. The CO-SLAW project team met twice monthly October 2019 through April 2020, then moved to a monthly schedule. Meetings are open to all providers and stakeholders. All care providers have signed the project's care compact, which articulates the network's shared patient care goals and values. Three practices in the network established a Business Associates Agreement (BAA) with CO-SLAW's fiscal agent, North Colorado Health Alliance (NCHA). A CO-SLAW ROI was created and distributed to the network practices. However, CO-SLAW network practices

		may also opt to include CO-SLAW in their own ROI for member signature. CO-SLAW leadership and care coordinators selected the Treatment Needs Questionnaire (Brooklyn & Sigmon, 2017) as an assessment tool.
	Objective 1.2. By year 1, month 3, the Project Director will be hired and the Lead Evaluator will be identified.	✓ **Objective 1.2 was attained on schedule.** In year 1, month 3, Heather Ihrig, MSN, MBA, was hired as the Project Director and Meredith Silverstein, PhD, at the Butler Institute for Families, University of Denver, was hired as the Lead Evaluator. Staffing in these roles remained stable in year three.
	Objective 1.3. By year 1, month 4, OpiSafe will be implemented at the 8 treatment sites. GPRA data will be obtained by care coordinators via face-to-face administration.	✓ **Objective 1.3 was modified.** GPRA administration was attained. The process continues to be maintained by the CO-SLAW program evaluation team. OpiSafe developed and implemented a care coordination platform where all CO-SLAW care coordinators document member services.
	Objective 1.4. By year 1, month 4, at least 2 CMs will be hired and begin engagement with newly enrolled patients.	✓ **Objective 1.4 was attained on schedule.** At the end of year 3, CO-SLAW was fully staffed.
Provide Recovery Support Services (RSS)	**Objective 1.5.** By year 1, month 6, one CM will complete peer-recovery coach training, and peer-recovery support services will be offered to all enrolled individuals.	✓ **Objective 1.5 was attained on schedule.** Two peers coaches, one of whom is bilingual, are in the process of certification. As of this report, they have completed 45+ hours of the 60 required for certification. Two care coordinators have lived experience, one of whom has a peer certification.

Provide MAT; conduct appropriate clinical assessment; check the state, county, or local Prescription Drug Monitoring Program (PDMP); conduct screening and assessment for co-occurring substance use and mental health disorders; establish and implement a plan to mitigate the risk of diversion; develop outreach and engagement strategies to increase participation in MAT with diverse populations	**Objective 1.6.** By year 1, month 5, the Project Director and Lead Evaluator will develop protocols and workflows to guide care manager engagement with the 8 treatment sites.	✓ **Objective 1.6 was attained on schedule.** Workflows were developed by year 1, month 5, to guide care coordination and member engagement. These are reviewed regularly to ensure efficacy and efficiency. The evaluation and clinical teams partnered to develop a GPRA data collection guide and established workflows to support GPRA data collection, including a weekly summary report to the clinical team detailing members who are due for follow up. These processes were maintained in year three.
Develop outreach and engagement strategies to increase participation in MAT with diverse populations; use telehealth services, or other innovative interventions, to reach, engage, and retain members in treatment	**Objective 1.7.** By year 3, month 12, the Project Director and Committee will provide outreach and education about CO-SLAW and MAT to at least 6 local practices and 6 community organizations (30 providers, 30 administrative leaders, and 30 community organization staff members).	✓ **Objective 1.7 was attained ahead of schedule and will remain an ongoing objective of the project.** Although impacted by the COVID-19 pandemic, outreach and education activities continued in year 3. This included the distribution of 296 naloxone kits; 188 of these were distributed at Overdose Awareness Day events. CO-SLAW hosted a total of 64 outreach tables at various community events. CO-SLAW care coordinators facilitated Community Reinforcement and Family Training (CRAFT) groups with a total of 168 participants. Telehealth options have been integrated throughout the network.
Provide MAT	**Objective 1.8.** Initiate MAT for 117 individuals with OUD per year.	✓ **Objective 1.8 was attained on schedule.** As of September 30, 2021, CO-SLAW has enrolled and provided MAT to 336 members. To facilitate enrollment, the project established a 1-800 telephone number, which is staffed 24 hours a day, 365 days a year.

Ensure all applicable practitioners working on the grant-funded project obtain a DATA waiver	**Objective 1.9.** The Project Director and Committee leadership will coordinate at least 4 PCSS or ASAM approved buprenorphine waiver trainings (1 per year in years 1 and 3; 2 in year 2) for 20 providers.	✓ **Objective 1.9 was attained ahead of schedule and will remain an ongoing objective of the project.** In year 3, one waiver training was hosted at North Colorado Family Medicine in Greely and two post-waiver follow-up trainings were held online. In addition, two safe prescribing sessions were held at the Garcia House residential treatment program.

Table 3. Goal 2

Goal 2 **Initiate MAT and concurrent evidence-based psychosocial (EBP) treatment in 350 individuals (117 per year) with OUD within the CO-SLAW network of care.**		
Required Activity	**Objective**	**Progress**
Establish and implement a plan to mitigate the risk of diversion.	**Objective 2.1.** By year 1, month 6, Project Director and Care Coordinators will meet monthly to review all individuals receiving MAT through the CO-SLAW network of care to ensure medication adherence, mitigate risk of diversion, and facilitate long-term recovery.	✓ **Objective 2.1 was attained on schedule.** The CO-SLAW care coordination team continues to meet weekly in person or via teleconference to review member cases, measure progress against program objectives, and plan and coordinate upcoming events and community outreach efforts. During these meetings, the team also discusses strategies to mitigate diversion risk and support long-term recovery.
	Objective 2.2. By year 2, month 6, at least one SummitStone clinic will pilot buprenorphine maintenance visits via telemedicine**.**	✓ **Objective 2.2 was attained on schedule.** In response to the COVID-19 pandemic, this objective was exceeded. SummitStone now provides buprenorphine maintenance via telehealth.

Table 4. Goal 3

Goal 3 Initiate MAT in individuals with OUD experiencing transitions in care from hospitals, emergency departments (EDs), and incarcerated settings with formal referral into the CO-SLAW network of care.		
Required Activity	**Objective**	**Progress**
Build funding mechanisms and service delivery models with rural and resource-limited organizations; provide MAT; conduct an appropriate clinical assessment; check the state, county, or local Prescription Drug Monitoring Program (PDMP); conduct screening and assessment for co-occurring substance use and mental health disorders; establish and implement a plan to mitigate the risk of diversion; develop outreach and engagement strategies to increase participation in MAT with diverse populations	**Objective 3.1.** Of the 350 individuals enrolled, 20 patients (10 per year) will receive initial MAT dosing in a transitions of care site. Through formal referral into the CO-SLAW network of care, these patients will receive continued MAT, comprehensive EBP treatment, and comprehensive primary care treatment using appropriate clinical assessment tools.	✓ **Objective 3.1 was attained ahead of schedule and will remain an ongoing objective of the project.** • A total of 1,064 adults (169 in year 1; 405 in year 2; and 490 in year 3) received MAT in Larimer County Jail (LCJ). Specifically, between September 1, 2019, and August 31, 2021, the dates for which these data were readily available, members in LCJ received: • 482 buprenorphine inductions • 218 buprenorphine continuations • 6 Methadone inductions • 60 Methadone continuations • 59 Naltrexone inductions • 58 Naltrexone continuations • 1 Vivitrol induction • 1 Vivitrol continuation By September 30, 2021, 46 individuals in year 3 received initial MAT dosing across Banner Health and UC Health Emergency Departments, two transitions of care sites.
Develop outreach and engagement strategies to increase participation in MAT with diverse populations	**Objective 3.2.** By year 2, month 2, Project Director and Committee leadership will provide education to at least 20 providers and/or administrative leaders across a minimum of 1 local jail, 1 local hospital, and 1 local emergency department on OUD, MAT, and CO-SLAW.	✓ **Objective 3.2 was attained ahead of schedule and will remain an ongoing objective of the project.** Although impacted by the COVID-19 pandemic, outreach and education activities continued in year 3. This included the distribution of 296 naloxone kits; 188 of these were distributed at Overdose Awareness Day events. CO-SLAW hosted a total of 64 outreach tables at various community events. CO-SLAW care coordinators facilitated Community Reinforcement and Family Training (CRAFT) groups with a total of 168 participants. Telehealth options have been integrated throughout the network. In year three as in previous project years, leadership from Larimer County Jail and UC Health and Banner Health emergency departments continued their collaboration with the project by actively participating in

		CO-SLAW monthly meetings and hosting embedded care coordinators in their facilities.
	Objective 3.3. By year 2, month 4, the Project Director and Committee leadership will provide targeted training on initial dosing of MAT and referral to the CO-SLAW network to at least 1 hospital or emergency department and 1 incarcerated setting for a total of 20 providers and/or administrative leaders.	✓ **Objective 3.3 was attained ahead of schedule and will remain an ongoing objective of the project.** In year 2 CO-SLAW offered 1 waiver training for 4 providers. CO-SLAW offered 7 waiver trainings in year 2 with 178 total participants including Larimer County Jail, Banner Health, and UC Health hospitals Thus, the target of this objective was exceeded. In year three as in previous project years, leadership from Larimer County Jail and UC Health and Banner Health emergency departments continued their collaboration with the project by actively participating in CO-SLAW monthly meetings and hosting embedded care coordinators in their facilities.
Build funding mechanisms and service delivery models with rural and resource-limited organizations	**Objective 3.4.** By year 2, month 6, a shared MOU and ROI will be developed by Project Director and Lead Evaluator and signed by a minimum of 1 hospital or emergency department and 1 jail.	✓ **Objective 3.4 was attained ahead of schedule and will remain an ongoing objective of the project.** An MOU and ROI were signed by the Larimer County Jail on April 1, 2019. UC Health and Banner Health, two prominent hospital systems in the region, added CO-SLAW to their ROI. The CO-SLAW leadership team continued conversations with Weld County Jail in year three.
Provide MAT	**Objective 3.5.** By year 2, month 8, at least 2 transitions of care sites will initiate MAT for a minimum of 2 individuals with transition to one of the practice sites.	✓ **Objective 3.1 was attained ahead of schedule and will remain an ongoing objective of the project.** • A total of 1,064 adults (169 in year 1; 405 in year 2; and 490 in year 3) received MAT in Larimer County Jail (LCJ). Specifically, between September 1, 2019, and August 31, 2021, the dates for which these data were readily available, members in LCJ received: • 482 buprenorphine inductions • 218 buprenorphine continuations • 6 Methadone inductions • 60 Methadone continuations • 59 Naltrexone inductions • 58 Naltrexone continuations • 1 Vivitrol induction

		• 1 Vivitrol continuation By September 30, 2021, 46 individuals in year 3 received initial MAT dosing across Banner Health and UC Health Emergency Departments, two transitions of care sites.

The initial project plan for CO-SLAW included a fourth goal: to establish at least 1 hub (Brooklyn & Sigmon, 2017) as an addiction treatment center with identified workflows for shared management of patients who need methadone treatment in northern Colorado to serve at least 10 of the total patients enrolled in year 3. In the hub and spoke model, "hubs" provide intensive treatment for substance use disorders, including medication for addiction treatment (MAT), psychosocial supports, and case management, while "spokes" provide ongoing community-based treatment. Over the three years of CO-SLAW's development and implementation, this model was reimagined to meet the needs of the region. As the social network analysis described later in this report details, CO-SLAW has developed into a robust and durable network of substance use treatment providers, community mental health centers, and federally qualified health centers, each of which offers a full spectrum of SUD and OUD treatment options. In this regard, each of the providers serves a spoke. The defining feature of the CO-SLAW network is its cohort of care coordinators who are embedded in each provider and transition of care site who facilitate access to and engagement in the network, regardless of point of entry. Thus, CO-SLAW functions as a "virtual hub" through care coordination, collaboration with transitions of care sites, and providing interim or "bridge" MAT prescriptions while members wait to access ongoing care, education, and community outreach events. Future funding will build on this model to develop, implement, and sustain a regional MAT care coordination center of excellence and innovation to support the care coordination workforce, ensure quality care, and improve member outcomes.

Ongoing Impact of COVID-19

Like other health care providers across the U.S., the pandemic spurred CO-SLAW providers to quickly pivot to telehealth options, a move that was facilitated in part by changes in Medicare and Medicaid reimbursement and co-payment waivers and cost-sharing by major national insurers (Colorado Department of Health Care Policy and Financing, 2020). The move to telehealth helped ensure continuity of care to enrolled members and the opportunity for continued access to care for those in need in the safest manner possible. While in-person services have resumed, telehealth has become an integrated modality in the CO-SLAW continuum of care. For example, SummitStone Health Partners, a community mental health center and CO-SLAW member provider,

now offers buprenorphine maintenance visits via telehealth. CO-SLAW care coordinators began offering Community Reinforcement and Family Training (CRAFT) groups online in February 2021 and continue to provide this service using a hybrid in-person and online format.

On August 30, 2021, the Colorado State Board of Health approved a vaccine requirement for staff in health care settings with high-risk patients (CDPHE, 2021). CO-SLAW providers were ahead of this requirement and all CO-SLAW care coordinators and staff were fully vaccinated allowing them to return to in-person services (with appropriate protections remaining in place) in the spring of 2021. As a part of the North Colorado Health Alliance, mobile vaccine clinics and referrals to other vaccine clinics have become a routine part of treatment and care coordination services.

Evaluation

As assessed by both quantitative and qualitative measures, CO-SLAW met or exceeded its goals, objectives, and outcomes at the conclusion of year 3. Evaluation activities and member-level outcomes up to the end of year 3, September 30, 2021, are described in the following sections. The project evaluation, conducted by the Butler Institute for Families at the University of Denver (Butler), is guided by an evaluation plan based on CO-SLAW goals, objectives, and outcomes and developed in collaboration with the CO-SLAW project team. The evaluators provided a weekly summary report to the project director and care coordination team, highlighting intake and follow-up rates and when member follow-up interview windows opened and closed. The care coordination team and project evaluation team met regularly to troubleshoot data collection issues, share successes, and collaborate on evaluation activities. In addition, the evaluation team participated in all CO-SLAW project team meetings to provide interim outcomes and progress updates on evaluation activities and support local outreach and dissemination efforts. The evaluation team also produced a guide on how to read the statistics presented in this report, located in the Appendix.

How to Read Statistics

A guide on how to read the statistics presented in this report is in the Appendix.

Data Collection, Data Sources, and Interview Rates

CO-SLAW members were interviewed as required by the Substance Abuse and Mental Health Services Administration (SAMHSA), using the Center for Substance Abuse Treatment (CSAT) Government Performance and Results Act (GPRA) tool to monitor self-reported member outcomes. Members were interviewed at intake and 3-months and 6-months post-intake. CO-SLAW care coordinators conducted a total of 336 intakes, 231 3-month follow ups, and 199 6-month follow-up interviews (see Table 5). SAMHSA requires projects to have a 100% intake interview rate and 80% follow-up interview rate. Care coordinators approached the 100% intake and 80% 6-month follow-up rate goals and exceeded the 80% follow-up rate goal for 3-month follow-ups. **In comparison with all other SAMHSA discretionary grants during the same time period, CO-SLAW maintained higher intake and follow-up rates.** While all other discretionary grants had about a 43% completion rate for follow-up interviews, CO-SLAW follow-up interview rates were 81% at 3 months and 72% at 6 months (SAMHSA, 2021a).

CO-SLAW care coordinators maintained high intake and follow-up rates. Care coordinators exceeded the target 80% follow-up completion rate for 3-month follow ups.

In year 2, the care coordination and evaluation teams partnered with OpiSafe to develop an online record system where care coordinators document member care plans and services. This system launched March 17, 2020. This system was used throughout year three of the project. In support of this evaluation, OpiSafe provided the evaluation team a de-identified file of member services. These data were then linked to members' GPRA data. Descriptive statistics were calculated to better understand the services CO-SLAW members received and inferential statistics were calculated to better understand the relationship between services and member outcomes.

Table 5. Interview Rates

INTERVIEW	CO-SLAW TARGET	CO-SLAW COMPLETED	CO-SLAW RATE	ALL OTHER GRANTEE RATES
INTAKE	350	336	96%	77%
3-MONTH FOLLOW UP	285	231	81%	42.5%
6-MONTH FOLLOW UP	275	199	72.3%	43.8%

Referrals and Providers

Most members sought out CO-SLAW services themselves or were referred by a behavioral health care provider. Twenty-nine percent of referrals were from behavioral health care providers, followed by self-referrals (28%), Larimer County Jail (11%), friends or family (10%), and community organizations (10%; see Figure 1). **Self-referrals and referrals from family or friends made up 38% of all referrals to CO-SLAW. This may reflect the CO-SLAW team's outreach and de-stigmatization efforts in the community.** Figure 2 below shows where members entered into treatment as measured by their intake GPRA. The Behavioral Health Group and Front Range Clinic provided services to most CO-SLAW members who were interviewed (see Figure 2).

Figure 1. Source of Member Referral to CO-SLAW

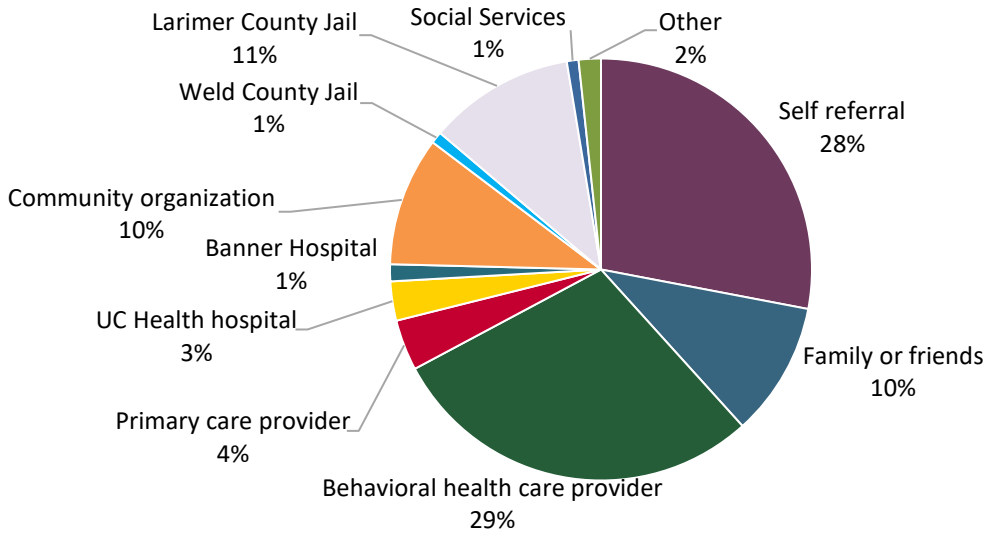
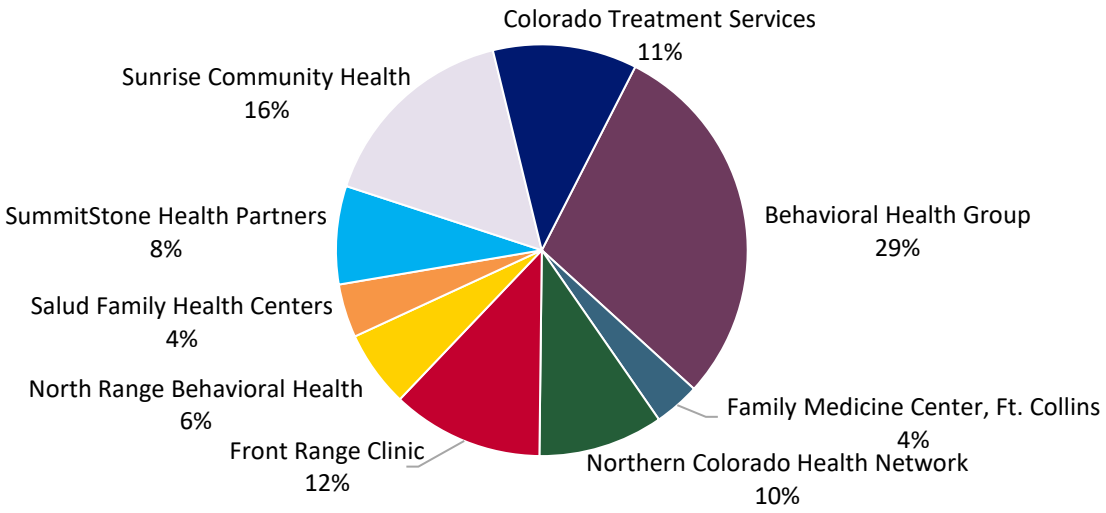


Figure 2. Service Providers for Members



Member Attrition

Question: What factors are associated with members not engaging in treatment?

Answer: Yes, members that have trouble understanding, concentrating, or remembering are less likely to stay engaged in treatment.

Members who did not complete 3- or 6-month interviews reported at intake:

- **Experiencing more days of having trouble understanding, concentrating, or remembering**

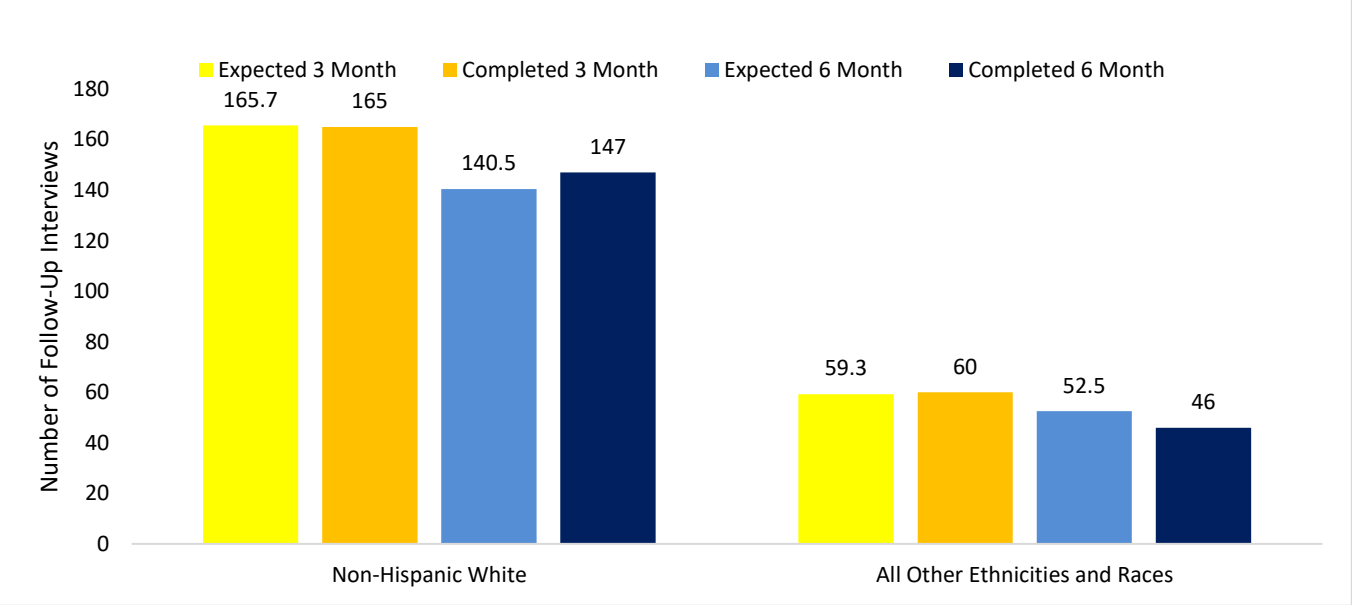
Member attrition, as measured by members not completing their 3-month or 6-month follow-up interview within the allowable interview window, was used as a proxy measure for treatment engagement. **Overall, most members who had a 3-month or 6-month interview due by the end of year 3 completed the interview.** Out of the 278 members who had a 3-month interview due by the end of year three, 226 (81.3%) completed it and 52 (18.7%) did not. Similarly, out of the 262 members who had a 6-month interview due by the end of year three, 194 (74%) completed the 6-month interview, and 68 (26%) did not. Independent samples *t*-tests and chi-square analyses were used to determine if any factors were different at intake among members who completed follow-up interviews and those who did not.

The number of days of substance use or attending self-help groups for recovery were not significant factors in members completing a follow up.

An independent samples t-test showed that trouble understanding, concentrating, or remembering is a factor in completing a 3- or 6-month follow-up interview. **Members who experienced more days of trouble understanding, concentrating, or remembering were statistically less likely to complete their 3-month ($t(276)= 2.913$, $p=.004$) or 6-month follow-up interviews ($t(260)= 2.115$, $p=.035$).** A chi-square analysis was used to find differences in follow-up rates between groups. Fewer than expected members who were living in unstable housing completed the 6-month follow up ($\chi2(1) = 5.189$, $p=0.023$). Unstable housing was defined as living in temporary housing, halfway house, residential treatment, or someone else's apartment, room, or house. Throughout the CO-SLAW project, factors like living in unstable housing as well as having trouble, understanding, concentrating, or remembering have been consistently associated with member attrition.

Although ethnicity, like Hispanic versus non-Hispanic members, was not a factor in member attrition by year 3, there was a significant difference when race was included as a factor (see Figure 3). **Non-Hispanic White members completed more than expected 6-month follow-up interviews by the end of year 3, while all other ethnicities and races completed fewer than expected 6-month follow ups ($n = 261$, $\chi2(1) = 4.245$, $p=0.039$). There is not a significant difference in 3-month follow-up rates, suggesting that member attrition starts after that timepoint.**

Figure 3. Expected vs Completed Follow-Up Interviews *n*=199



Addressing Member Attrition

At the end of the second year of the CO-SLAW project, member attrition was associated with Hispanic or non-Hispanic ethnicity. Fewer than expected Hispanic members completed a 6-month follow-up interview than non-Hispanic members (n = 168, $\chi 2(1) = 7.441$, $p<0.05$). As a result, the clinical team implemented a performance improvement plan to increase Hispanic members' access, engagement, and retention in treatment in the region using a peer-coach based, comprehensive care coordination model. This included hiring 2 full-time bilingual/bicultural peer coaches who conducted intensive outreach and provided Spanish-language peer supports to reduce language and cultural barriers to care. By the end of project year 3, there were no differences in 6-month follow-up rates between Hispanic and non-Hispanic members (n = 261, $\chi 2(1) = 2.295$, p=0.130) suggesting this disparity has been reduced. The clinical team may take steps similar to those they took to address Hispanic member attrition to ensure the engagement of members who report mental health and other demographic factors associated with attrition.

Demographics

CO-SLAW member demographic information was taken from the 336 intake interviews. **Most members identified as White, high-school or college-educated, unemployed people in their thirties who were not involved with the criminal justice system.** See Table 6 for the breakdown of members' race and ethnicity. The GPRA asks if a member is ethnically Hispanic, with the options of Mexican, Central American, South American, Dominican, Puerto Rican, Cuban, and Other. The GPRA question about race only allows members to select from six racial categories and does not allow for a write-in option. The choices are Asian, Black, American Indian, Alaska Native, Native Hawaiian or Pacific Islander, and White. Since the GPRA question about racial identity does not have a Hispanic racial category, there is not an accurate way to discern which members are racially Hispanic.

Consequently, the only categories that could be made were Hispanic White; non-Hispanic White; Hispanic Black, Asian, American Indian, Alaska Native, Native Hawaiian or Pacific Islander; and non-Hispanic Asian, Black, American Indian, Alaska Native, Native Hawaiian or Pacific Islander. With CO-SLAW's focus on understanding engagement disparities with Hispanic members in particular, and People of Color in general, some analysis will combine members who identify as anything other than non-Hispanic White into the category of "All Other Ethnicities and Races".

Gender. One member identified as transgender (0.3%), 155 as female (46.1%), and 180 as male (54.6%).

Thirties. Members' average age was 38 years, with a range of 20-73 years.

White. The majority of members identified as non-Hispanic White (71.7%), followed by Hispanic White (15.2%).

Housed. At intake, most members were housed (74.6%), with half living in their own home and half living in someone else's home.

Parents. Most members (64.5%) reported having children, with an average of 2 children.

Supportive family and friends. At intake, 85.4% of members had had interactions in the past 30 days with family or friends who were supportive of their recovery, and 61.6% of members turned to family when they were having trouble.

High school or college educated. Most members had earned a high school diploma or equivalent (50%) or had some higher education experience like college (37.8%).

Unemployed. At intake, 66.3% of members were unemployed, with a majority (61.7%) looking for work and 21.1% unemployed due to having a disability.

No current criminal justice involvement. At intake, 89% of members had not been arrested in the past 30 days, 81.9% of members were not awaiting trial or sentencing, and 64.4% were not on parole or probation.

Opioid-related disorders and mental health disorders. The most common diagnosis was for opioid-related disorders (44.8%), followed by diagnoses for mental health disorders (27.4%), other stimulant-related disorders (10.2%), and alcohol-related disorders (7.8%).

Table 6. Ethnicity and Race of Members *n*=336

ETHNICITY	NUMBER OF MEMBERS	PERCENT
Non-Hispanic	**261**	**77.6%**
Hispanic	**74**	**22.1%**
MEXICAN ONLY	52	
MEXICAN AND CENTRAL AMERICAN	1	
MEXICAN AND SOUTH AMERICAN	1	
SPANISH	7	
CENTRAL AMERICAN	3	
CUBAN	1	
PUERTO RICAN	1	
PUERTO RICAN AND DOMINICAN	1	
NATIVE AMERICAN	1	
SOUTH AMERICAN AND OTHER	1	
OTHER	1	
REFUSED	3	
Refused	**1**	**.3%**
RACE		
White (Non-Hispanic)	**241**	**71.7%**
All other ethnicities and races	**94**	**28%**
WHITE (HISPANIC)	51	
ALL OTHER RACES (NON-HISPANIC)	20	
American Indian, or American Indian & White, or American Indian & Native Hawaiian/Pacific Islander	*13*	
Black, or Black & White	*6*	
Asian	*1*	
ALL OTHER RACES (HISPANIC)	10	
American Indian, or American Indian & White	*7*	
Black	*2*	
Alaska Native	*1*	
REFUSED (HISPANIC)	13	
Refused	**1**	**.3%**

Mental Health Outcomes

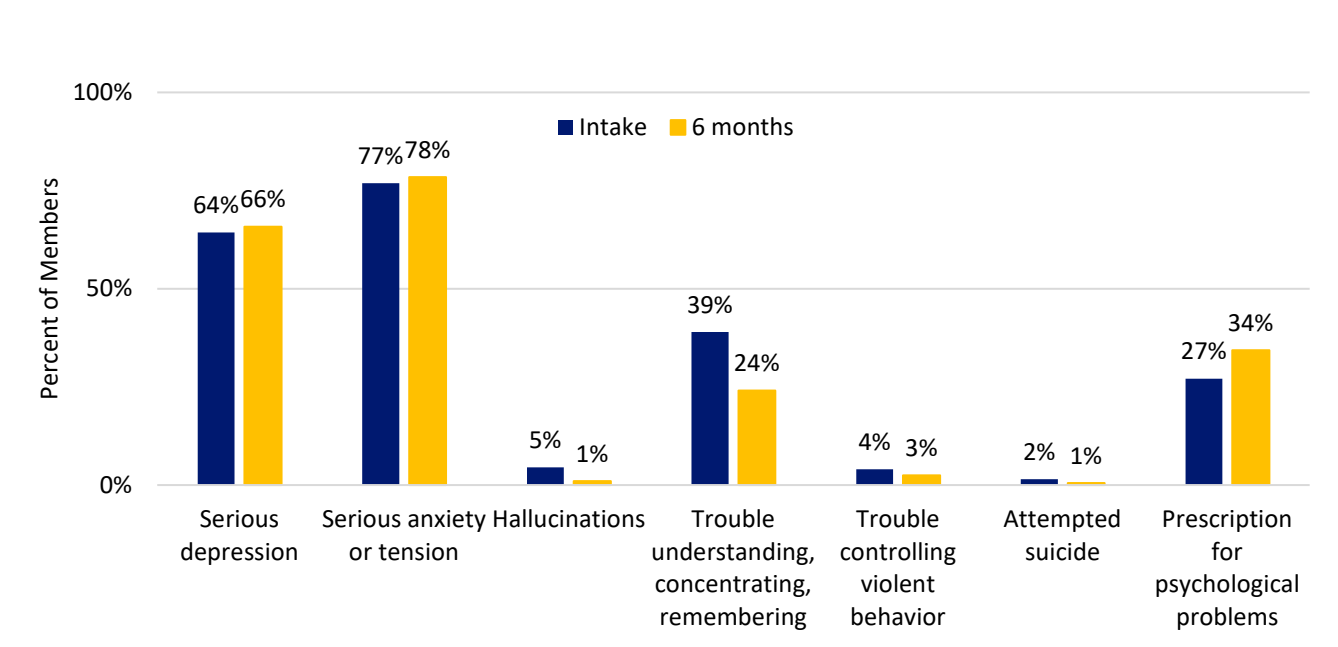
Percent of Members that Experienced Mental Health Symptoms

Question: Did the percent of members who reported mental health symptoms decrease over time?

Answer: It depends on the mental health symptom.

The mental health of CO-SLAW members was measured the number of days in the past 30 days they experienced serious depression; serious anxiety or tension; hallucinations; trouble controlling violent behavior; suicide attempts; and trouble understanding, concentrating, or remembering. Members who experienced zero days of mental health symptoms were categorized as having no symptoms, while members that experienced one or more days of mental health symptoms were categorized as experiencing mental health symptoms. The 199 members that completed an intake and 6-month follow-up interview were included in the analysis. Figure 4 shows the percent of members that experienced one or more days of mental health symptoms in the past 30 days. **From intake to 6 months, the percent of members who experienced hallucinations or trouble understanding, remembering, or concentrating decreased.** The percent of members who experienced serious depression and serious anxiety or tension remained essentially unchanged between intake and 6 months. However, the number of days, or length of time, members experienced those symptoms decreased from intake to 6 months. The significant decrease in the number of days members reported mental health symptoms will be expanded upon in the following section.

Figure 4. Percent of Members Experiencing Mental Health Symptoms *n*=199



Number of Days Members Experienced Mental Health Symptoms

Question: Did the number of days members experienced mental health symptoms significantly decrease over time?

Answer: Yes, days of serious anxiety and trouble understanding, concentrating, and remembering decreased.

Statistically significant decrease in number of days members experienced:

- ✓ **Serious anxiety or tension**
- ✓ **Trouble understanding, remembering, or concentrating**
- ✓ **Serious depression, for members in unstable housing at intake**

Although reports of serious depression and anxiety remained essentially unchanged from intake to 6 months, the number of days- or length of time- members experienced those symptoms decreased. Paired-samples *t*-tests were used to find any statistically significant decreases ($p<.05$) in the number of days in the past 30 days members reported mental health symptoms. **From intake to 6 months, members showed significant decreases in the number of days they experienced serious anxiety ($t(198)= 2.290$, $p=.023$) as well as trouble understanding, concentrating, or remembering ($t(198)= 2.485$, $p=.014$**; see Figure 5).

In particular, members who were unemployed or living in unstable housing at intake showed significant decreases in the length of their mental health symptoms (see Table 7). Unemployed members showed a significant decrease in serious anxiety ($t(132)= 2.691$, $p=.008$) and trouble understanding, remembering, or concentrating ($t(132)= 2.498$, $p=.014$) by 6 months. Similar findings were shown with members that were in unstable housing (e.g. temporary housing, halfway house, residential treatment, or someone else's apartment, room, or house). Members in unstable housing at intake reported a significant decrease in the number of days they experienced serious depression ($t(65)= 2.150$, $p=.035$) and anxiety ($t(65)= 4.091$, $p<.001$) by 6 months. There were no significant changes in the length of mental health symptoms for members that were unhoused or in stable housing. In addition to decreases in the length of mental health symptoms, members reported a significant increase in the number of days they were prescribed medication for psychological problems from intake to 6 months ($t(197)= -3.022$, $p=.003$). This increase was also seen in members that were unemployed ($t(131)=-2.071$, $p=.04$) or living in unstable housing ($t(64)=-3.192$, $p=.002$). This may suggest that members are gaining access to appropriate psychological treatments along with their substance use treatment. **Even though the percent of members that experienced serious depression or anxiety remained unchanged, the number of days they experienced those symptoms significantly decreased. These results indicate that CO-SLAW care coordination had a positive impact on the length of time members experienced mental health symptoms, especially members who were unemployed or in unstable housing.**

Figure 5. Average Days Members Experienced Mental Health Symptoms *n*=199

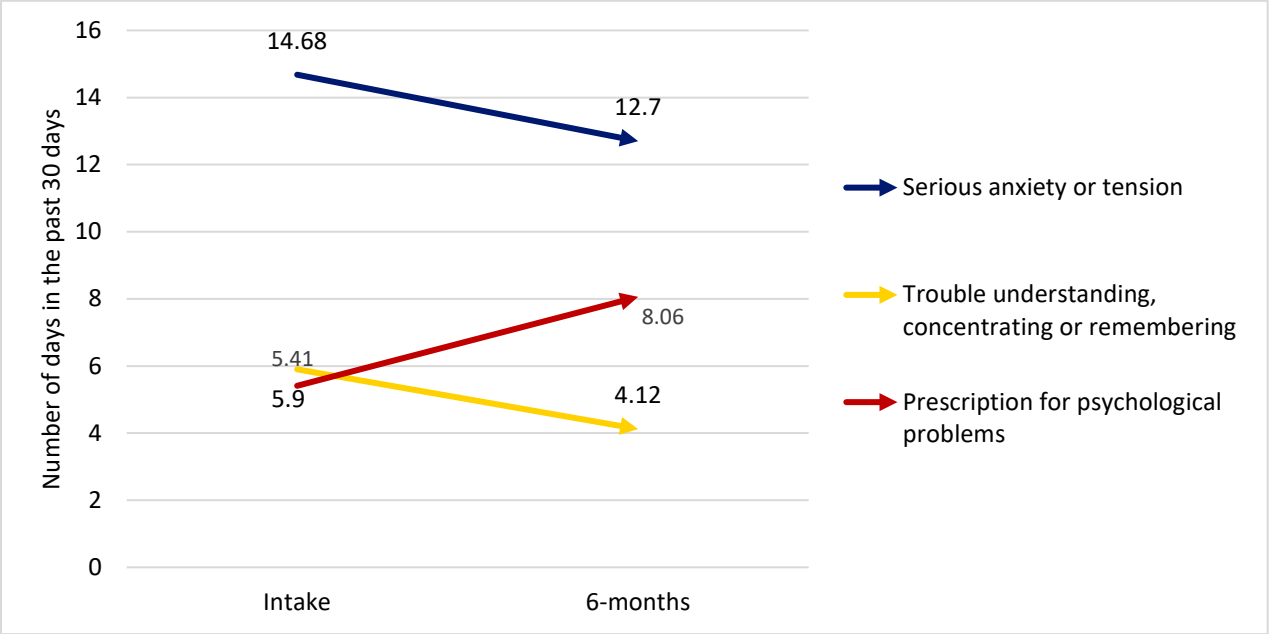


Table 7. Significant Changes in Mental Health Symptoms from Intake to 6 Months

Demographics	Serious depression	Serious anxiety or tension	Trouble understanding, concentrating, or remembering	Prescription for psychological problems
All members	X not significant	✓Significant decrease	✓Significant decrease	✓Significant increase
Unemployed	X not significant	✓Significant decrease	✓Significant decrease	✓Significant increase
Unstable housing	✓Significant decrease	✓Significant decrease	X not significant	✓Significant increase

Member ICD-10 Diagnoses

The ICD-10 (International Classification of Diseases, 10th Revision) was added to the GPRA interview in March 2019. There were changes in ICD-10 diagnoses between intake and 6-month follow-up interviews for 173 members who completed intake and 6-month follow-up interviews after March 2019. Although diagnoses are reported in the GPRA as primary, secondary, and tertiary, all diagnoses were combined for analysis due to the large number of diagnoses without an assigned diagnosis level. Members could have up to three individual diagnoses. **The most common diagnoses were mood disorders, anxiety disorders, and opioid-related disorders.** The most common mental health diagnoses at intake and 6 months were mood disorders and anxiety, dissociative, stress-related, somatoform, and other nonpsychotic mental disorders (see Table 8; SAMHSA, 2021b). Opioid-related disorders were the most common substance use disorders diagnosed at intake (46.5%) and 6-month follow up (46.7%). **The percent of members with substance use disorders in remission increased from intake to 6 months.** In particular, alcohol-related disorders in remission increased from 19.1% at intake to 45.8% at 6 months (SAMHSA, 2021b). Additionally, other stimulant-related disorders in remission increased from 9.1% at intake to 30.7% at 6 months. Opioid-related disorders in remission also increased from 50.7% at intake to 58.6% at 6 months.

Table 8. ICD-10 Diagnoses

ICD-10 Diagnoses	Intake	6 Months
Substance Use Disorders	**63.9%**	**66.6%**
Opioid-related disorders	**46.5%**	**46.7%**
Active or unspecified	49.6%	41.2%
In remission	50.4%	58.8%
Other-stimulant disorders	**7.1%**	**7.7%**
Active or unspecified	90.9%	69.2%
In remission	9.1%	30.7%
Alcohol-related disorders	**6.8%**	**7.1%**
Active or unspecified	80.9%	54.2%
In remission	19.1%	45.8%
All other substance use disorders	**3.5%**	**5.1%**
Mental Health Diagnosis	**28.4%**	**28%**
Mood disorders (manic episode, bipolar disorder, major depressive disorders)	49.7%	48.4%
Anxiety, dissociative, stress-related, somatoform, and other nonpsychotic mental disorders	39.5%	41.8%
Psychotic disorders (schizophrenia, schizoaffective, delusional, other)	4.8%	3.6%
Attention-deficit hyperactivity disorders	3.4%	2.4%
Unspecified mental disorder	1.4%	1.2%
Borderline personality disorder	0.7%	1.2%
Other behavioral and emotional disorders with onset usually occurring in childhood or adolescence	0.7%	0.6%
Tic disorder	-	0.6%
All Other Diagnoses	**7.7%**	**5.4%**

Psychosocial Outcomes: Member Satisfaction and Quality of Life

Question: Did member satisfaction and quality of life improve over time?

Answer: Yes, members reported a higher satisfaction and improved quality of life over time.

There was an increase in member satisfaction, quality of life, and overall health from intake to 6 months. The percent of members who reported being satisfied or very satisfied with their living situation, health, personal relationships, themselves, and their ability to perform daily activities increased from intake to 6 months (see Figure 6). A good or very good quality of life was reported by 54% of members at intake and 73% of members at 6 months. Overall health was rated as very good or excellent by 14% of members at intake and 31% of members at 6 months. **There was also an increase in the percent of members who were housed or employed from intake to 6 months (see Figure 7).**

Figure 6. Member Satisfaction *n*=199

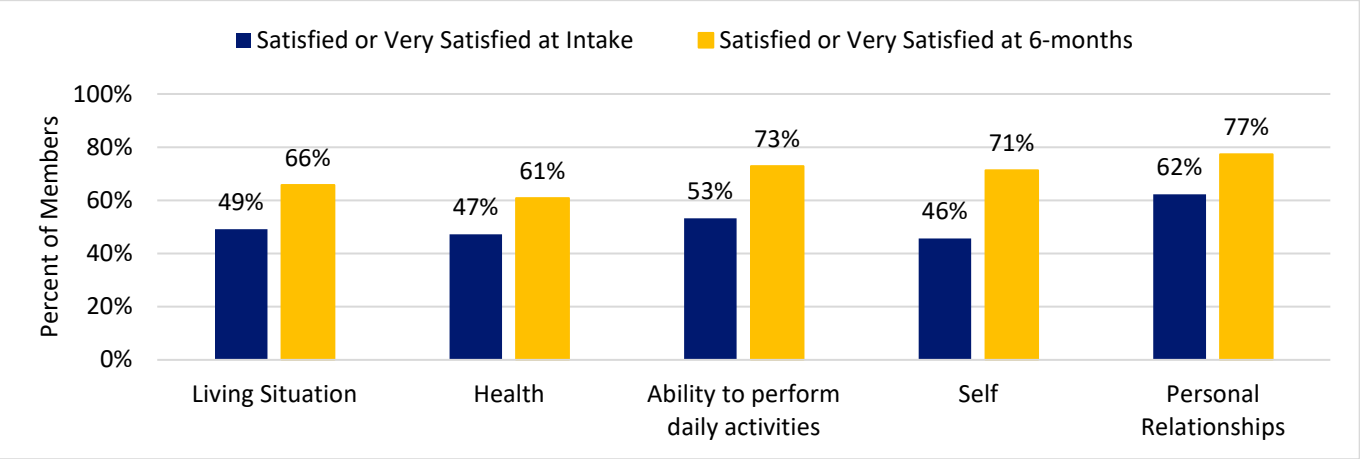
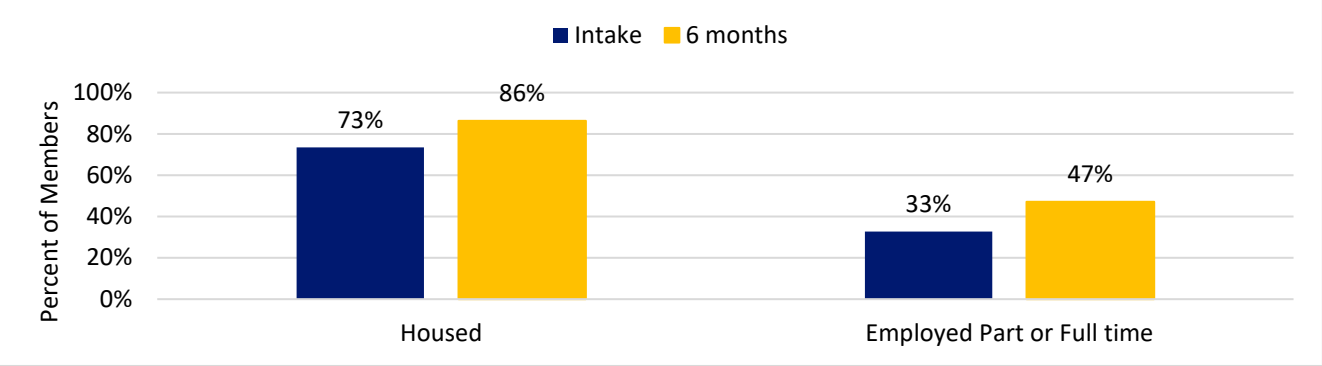


Figure 7. Member Housing and Employment Status *n*=199



Alcohol and Substance Use Outcomes

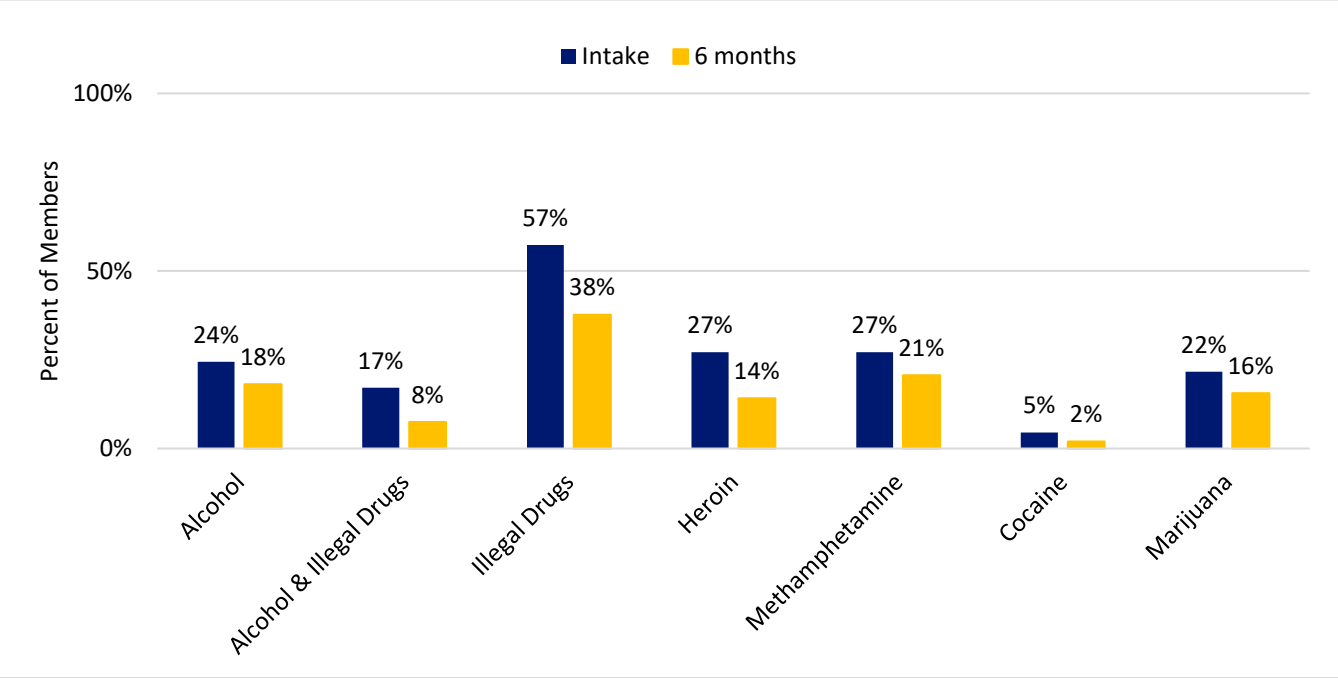
Percent of Members that Used Alcohol or Substances

Question: Did the percent of members that used alcohol or substances decrease over time?

Answer: Yes, the percent of members that used alcohol or any substances decreased over time.

The alcohol or substance use was measured by the number of days alcohol or substances were used in the past 30 days. Members who reported zero days of alcohol or substance use were categorized as having no use, while members that reported one or more days of use were categorized as using alcohol or substances. The 199 members that completed an intake and 6-month follow-up interview were included in the analysis. The figure below shows the percent of members that used alcohol or substances in the past 30 days (see Figure 8). **The percent of members who used alcohol or any substances in the past 30 days decreased from intake to 6 months.** At intake, 57% of members reported using illegal drugs, which decreased to 38% at 6 months (see Figure 8). Heroin use decreased the most, from 27% of members using heroin at intake to 14% at 6 months. There were decreases in alcohol, methamphetamine, cocaine, and marijuana use from intake to 6 months as well. Additionally, the percent of members who injected drugs in the past 30 days also decreased from intake (20%) to 6 months (13%). **Not only did the percent of members using alcohol or substances decrease over time, injection as method of use decreased as well.**

Figure 8. Percent of Members that Used Alcohol or Substances in the Past 30 Days *n*=199



Number of Days Members Used Alcohol or Substances

Question: Did the number of days members used alcohol or substances significantly decrease over time?

Answer: Yes, the use of alcohol, illegal drugs, heroin, and cocaine decreased over time.

Statistically significant decrease in past 30 day use of:

- ✓ **Alcohol**
- ✓ **Alcohol and illegal drugs**
- ✓ **Illegal drugs**
- ✓ **Heroin**
- ✓ **Cocaine**

To determine if there were any statistically significant ($p < .05$) decreases in the number of days alcohol or substances were used in the past 30 days, paired-samples *t*-tests were used on the 199 members who completed the intake and 6-month interviews. **Use of alcohol, illegal drugs, alcohol and illegal drugs, heroin, and cocaine in the past 30 days significantly decreased from intake to 6 months.** From intake to 6 months, members showed significant decreases in the number of days they used alcohol ($t(198) = 2.539$, $p = .012$), alcohol and illegal drugs ($t(198) = 2.558$, $p = .011$), illegal drugs ($t(198) = 2.956$, $p = .003$), heroin ($t(198) = 3.459$, $p = .001$), and cocaine ($t(198) = 2.099$, $p = .037$) in the past 30 days (see Table 9). Additionally, from intake to 3 months there were significant decreases in the use of illegal drugs ($t(230) = 3.492$, $p < .01$)and heroin ($t(230) = 4.198$, $p < .001$). **Overall, these findings support CO-SLAW's primary goal of reducing substance use.**

A Pearson's correlation coefficient was calculated to assess the relationship between the use of different substances. **There was a positive correlation between heroin and methamphetamine use at intake *(r*=.520, *p*<.001) and 6 months *(r*=.546, *p*<.001).** As the number of days members used heroin increased, so did the number of days members used methamphetamine. **CO-SLAW clinicians and leadership may want to further examine and consider the impact of polysubstance use, particularly methamphetamine and heroin, on care coordination services and treatment options.** On another note, attending self-help groups for recovery did not correlate with a decrease in alcohol or substance use. The number of times members attended self-help groups had no correlation with the number of days members used alcohol or substances.

Table 9. Significant Changes in Alcohol or Substance Use from Intake to 6 Months

SUBSTANCE	AVERAGE DAYS OF USE AT INTAKE	AVERAGE DAYS OF USE AT 6 MONTHS	TREND IN USE	STATISTICALLY SIGNIFICANT
ALCOHOL	2.02	1.03	↓ Decrease	✓ Yes
ALCOHOL AND ILLEGAL DRUGS	1.08	.33	↓ Decrease	✓ Yes
ILLEGAL DRUGS	9.42	6.81	↓ Decrease	✓ Yes
HEROIN	4.35	2.22	↓ Decrease	✓ Yes
METHAMPHETAMINE	3.73	3.31	↓ Decrease	X No
COCAINE	.43	.10	↓ Decrease	✓ Yes
MARIJUANA	3.54	3.22	↓ Decrease	X No
BENZODIAZEPINES	.44	.22	↓ Decrease	X No
MORPHINE	.09	.00	↓ Decrease	X No
PERCOCET	.05	.04	↓ Decrease	X No
CODEINE	.15	.00	↓ Decrease	X No
OXYCONTIN/OXYCODONE	.21	.17	↓ Decrease	X No
TYLENOL	.08	.01	↓ Decrease	X No
METHADONE	.02	.00	↓ Decrease	X No
HALLUCINOGEN	.02	.01	↓ Decrease	X No

Inpatient, Outpatient, and Emergency Department Use

Question: Did members use of inpatient, outpatient, or emergency department services change over time?

Answer: Yes, depending on the service.

Statistically significant findings in past 30 day use of:

- ✓ **Outpatient treatment for alcohol or substance use increased**
- ✓ **Emergency department use for alcohol and substance use decreased from intake to 3 months for members who completed 6-month follow-up interviews**
- ✓ **Emergency department use for physical complaints increased from 3 to 6 months**

To determine if there were any statistically significant ($p < .05$) changes in the use of inpatient, outpatient, and emergency department services, paired-samples *t*-tests were used on the 199 members who completed the intake and 6-month interviews. Use of inpatient treatment was measured by the number of nights members spent inpatient in the past 30 days. Emergency department and outpatient treatment utilization was measured by the number of times members used those services in the past 30 days. Members' use of outpatient treatment for alcohol or substance use significantly increased from intake to 6 months ($t(197)=2.297$, $p=.023$). Members who completed a 6-month follow-up interview showed a significant decrease in emergency department use for alcohol or substance use from intake to 3 months ($t(177)= 2.538$, $p=.012$). However, there was an significant increase from 3 months to 6 months in the number of times members used emergency departments for physical complaints ($t(177)= -2.322$, $p=.021$). **Overall, members sought help via outpatient treatment for substance use but still used the emergency department for physical complaints.**

A Pearson's correlation coefficient was calculated to assess the relationship between emergency department use for physical complaints and factors such as substance use and mental health symptoms. The number of days members used alcohol or substances did not correlate to emergency department use for physical complaints. However, the number of times members used the emergency department for physical complaints had a positive correlation with the number of days members experienced trouble understanding, concentrating, or remembering at 3 months ($n= 178$, $r= .201$, $p=.007$) and 6 months ($n=199$, $r=.160$, $p=.024$). Additionally, there was a positive correlation between age and the number of days members used the emergency department for physical complaints at 6 months ($n=199$, $r=.142$, $p=.045$). **As age or the number of days members experienced trouble understanding increased, so did the use of the emergency department for physical complaints at different time points.** Although it is unknown if these emergency department visits for physical complaints reflect appropriate use of emergency services, CO-SLAW care coordinators may want to evaluate and support members' access to and use of primary care services.

Care Coordination Services

In March 2020, OpiSafe launched a cloud-based care coordination services record system. All care coordinators currently use this system to chart member services and progress. Care coordinators also entered services provided prior to the system launch. In October 2021, OpiSafe provided the Butler Institute for Families with de-identified care coordination data files. The data was merged with GPRA data in order to better understand member outcomes as they relate to care coordination services received.

There were 1,197 cases in the OpiSafe data file. Of these, 182 were matched to their GRPA interview data. For these 182 members, there were a total of 1,208 contacts recorded, with care coordinators contacting members an average of 6.64 times per member (see Table 10). The number of contacts ranged from 1 contact to 72 contacts, with the most common being a single contact. Care coordinators spent a total of 46,110 minutes or 768.5 hours contacting members, spending an average 253.3 minutes per member. Total service time ranged from 15 minutes to 1,965 minutes, or 32.7 hours. For the first contact, members were most often contacted in person (45.6%), followed by over the phone (40.6%). Furthermore, the most common first contact location was in a setting other than a clinic, emergency department, home, or jail (42.8%), followed by a clinic (35.7%).

Table 10. Care Coordination Services *n*=182

	AVERAGE	MOST COMMON	RANGE
CONTACTS PER MEMBER	6 contacts	1 contact	1-72 contacts
MINUTES SPENT PER MEMBER	253 minutes	45 minutes	15-1,965 minutes

A Pearson's correlation coefficient was calculated to assess the relationship between member factors such as substance use, mental health symptoms, and care coordinator services. Fifteen outliers, members who received 18 or more contacts, were removed so the findings were not skewed. The analysis included 167 members. Two factors were associated with number of contacts and minutes spent: trouble understanding and income from wages. A significant positive correlation was found between total minutes spent on a contact and the number of

days members experienced trouble understanding, concentrating, or remembering at 3 months (*r*=.226, *p*=.01) and 6 months (*r*= .211, p=.02). **The more days members experienced trouble understanding at 3 and 6 months, the more minutes were spent on a contact.** There was also a significant negative correlation between number of contacts and income at 3 (r=-.217, p=.013) and 6 months (*r*= -.217, *p*=.016). **Inversely, the more money members made from wages at 3 and 6 months, the fewer number of contacts were made.** CO-SLAW care coordinators may want to consider workload and staffing resources when working with members who report having trouble understanding, concentrating, or remembering.

Member Perceptions of Care

A perceptions of care survey was distributed to members by their care coordinators during June and July 2021. The purpose of the survey was to capture members' perceptions of care and feedback on services received. The survey was developed by the Butler Institute for Families in partnership with CO-SLAW leadership. The confidential survey was administered online by members' care coordinators. Each care coordinator provided their members with a device with which to take the survey at their follow-up visit. Surveys may have been completed during a 3- or 6-month follow-up interview. Table 11 shows the survey responses. **Feedback was overwhelmingly positive. Additionally, all participating members agreed or strongly agreed that their care coordinator(s) had a positive impact on their treatment and recovery.**

Table 11. Member Perceptions of Care *n*=87

Item	Never	Rarely	Some of the time	Most of the time	Always
I feel welcomed by my care coordinator.	0%	0%	1%	6%	93%
I am able to access care when I need it.	1%	1%	4%	20%	74%
I am respected and listened to by my care coordinator.	0%	0%	1%	7%	92%
My care coordinator takes time to explain and educate me about issues related to my treatment.	0%	0%	1%	11%	88%
I am involved in my care and included in the decision making regarding my treatment.	1%	0%	1%	12%	86%
My care coordinator successfully coordinates care with my other treatment and service providers.	1%	0%	4%	13%	82%
My care coordinator encourages me to develop my recovery goals.	0%	0%	2%	11%	87%
My health information is kept confidential and shared only as necessary with other providers involved in my care.	0%	0%	1%	4%	95%
My care coordinator cares about my cultural needs (such as race, ethnic background, language, gender, sexual orientation, religion).	0%	0%	1%	6%	93%

Members were also asked for any additional feedback in an open-ended question at the end of the survey. Forty-four members responded, most calling out their care coordinator by name. Here, too, the feedback was consistently positive. Representative comments include:

> *"(William) is socially understanding, and always willing to engage with me whenever I need him."*
>
> *"Bethany always goes above and beyond for me. I owe her so much. She is a blessing."*
>
> *"We were making more money last year and Medicaid sent a letter that we might be kicked off soon or would have to re-apply so I reached out to Zach and he helped my GF and I re-apply and we were accepted and I stopped stressing. Zach is awesome."*
>
> *"Shannon has always gone above and beyond for me. No matter how big or small she's on top of it and you can really tell she cares for her clients. She is a huge part of my recovery story and I don't know what I would have done had she not came into my life. To say she is good at her job is an understatement. Love her so so much!!"*

Evaluation Key Findings

Key findings of the evaluation are listed below.

GOALS

- At the end of year 3, CO-SLAW met or exceeded all stated objectives and anticipated outcomes.
- Intake and 6-month follow-up rates remained high, and the 3-month follow-up rate was exceeded.
- Throughout the project, member attrition has been consistently associated with factors like unstable housing and having trouble understanding, concentrating, or remembering.
- By the end of year 3, there were no significant differences in 6-month follow-up rates between Hispanic and non-Hispanic members; however, when additional subsets of race and ethnicity were factored in (non-Hispanic White versus all other ethnicities and races), non-Hispanic White members continued to complete more than expected 6-month follow-up interviews.

MENTAL HEALTH SYMPTOMS

- From intake to 6 months, members showed significant decreases in the number of days they experienced serious anxiety as well as trouble understanding, concentrating, or remembering. This is particularly true for members that were unemployed or living in unstable housing at intake.
- There was a significant increase in prescriptions for psychological problems from intake to 6 months.
- The most common diagnoses among members were mood disorders, anxiety disorders, and opioid-related disorders. The percent of members with substance use disorders in remission increased from intake to 6 months.

QUALITY OF LIFE

- Members reported increases in overall satisfaction with their living situation, health, ability to perform daily activities, their self, and personal relationships from intake to 6 months.
- The percent of members who were housed or employed increased from intake to 6 months.

ALCOHOL AND SUBSTANCE USE

- Use of alcohol, illegal drugs, alcohol and illegal drugs, heroin, and cocaine in the past 30 days significantly decreased from intake to 6 months.
- There was a positive correlation between heroin and methamphetamine use at intake and 6 months.

EMERGENCY DEPARTMENT USE

- The use of emergency departments for physical complaints increased as age or the number of days members experienced trouble understanding increased. Care coordinators may want to evaluate and support members' access to and use of primary care services.

CARE COORDINATION AND SATISFACTION

- There was an average of 6 contacts for each member by care coordinators. The more days members experienced trouble understanding at 3 and 6 months, the more minutes were spent on a contact. Inversely, the more money members made from wages at 3 and 6 months, the fewer number of contacts were made.
- Member feedback of CO-SLAW is overwhelmingly positive, with over 90% of members reporting they felt welcomed, respected, had their health information kept confidential, and their cultural needs understood and met.

Social Network Analysis

Between June 2019 and February/March 2021, a Social Network Analysis of CO-SLAW was conducted using the PARTNER® survey tool (www.partnertool.net). PARTNER® is a social network analysis data tracking and learning tool designed to measure and monitor collaboration among people/organizations. It is a scientifically validated way to design data-driven network strategies that generate social impact. PARTNER® is a registered product of Visible Network Labs, which supplies the survey platform and analytic software to conduct the analysis.

As a first step in this process, the evaluation team met with CO-SLAW leadership to identify the organizations central to the network. This process is referred to as "bounding the network" and is a critical step in defining the network. While CO-SLAW has connections across the region, the team opted to focus on direct service providers and key organizations that have a direct impact on service delivery. Next, the teams reviewed the PARTNER® questions to ensure relevancy for the CO-SLAW network and identify key contacts at each organization included in the network.

Key contacts were recruited for participation by email and phone. Each contact was a leader in their organization who also could speak directly to their organization's involvement in CO-SLAW. While only one survey per organization was completed, key informants were notified that they could consult with as many

others in their organization as necessary to complete the survey. Survey responses were confidential but not anonymous. The survey was administered in June 2019 (time 1) and in February and March 2020 (time 2).

The following organizations participated in the social network analysis: Behavioral Health Group, Colorado Consortium for Prescription Drug Abuse, Colorado Treatment Services, Family Medicine Residency Center, Front Range Clinic, Health District of Northern Larimer County, Larimer County Jails and Detention, North Colorado Health Alliance, North Range Behavioral Health, OpiSafe, Salud Family Health Centers, Northern Colorado Health Network, SummitStone Health Partners, and Sunrise Community Health.

The survey asked respondents to describe themselves and their work in the network and then to answer questions about their partners. The social network analysis was guided by three evaluation questions:

1. What does the CO-SLAW network look like as a whole at baseline (density, centrality, trust)?
2. How frequently do organizations interact in general and on workflows/processes and client referrals in particular?
3. To what degree do members agree on the goal(s) of CO-SLAW?

The PARTNER® tool visualizes networks in terms of strength and direction of relationship, partner value attributes, and partner trust. This analysis of the data focused on four key attributes:

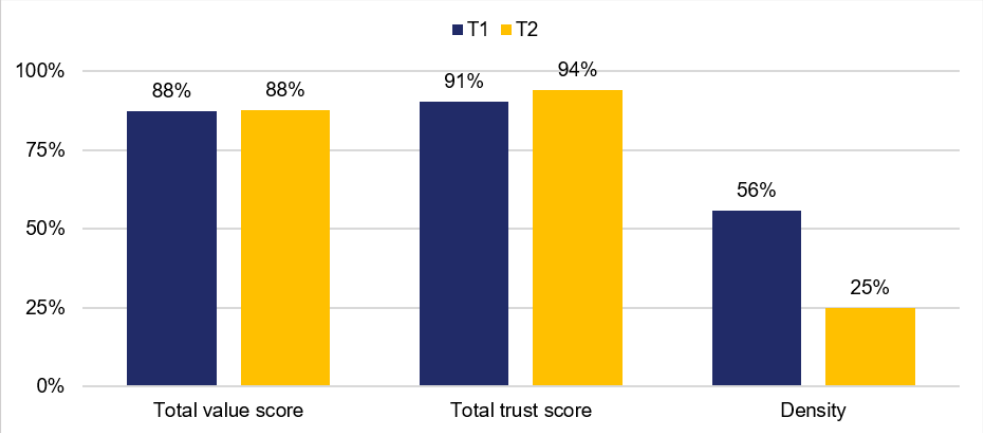
1. Measures of network density, degrees of centralization, and trust
2. Individual network scores include centrality/connectivity/redundancy
3. Value in terms of power/influence, level of involvement, and resource contribution
4. Individual trust levels in terms of reliability, support of mission, and openness to discussion

It is important to underscore that network science or the science of the interconnectedness among human and organizational entities is based on a definitive principle that more is not always better. With a limited relationship "budget," there is a limited number of relationships that can be built and sustained to advance the network before there are diminishing returns.

Network Overview

Between June 2019 (time 1) and March 2020 (time 2), the density, or overall connections within the network decreased from 56% to 25%; however total value scores remained consistent and there was a slight increase in the total trust score. **This suggests the network has been working more efficiently without undermining the quality of connections between members (see Figure 9).**

Figure 9. Total Value, Trust, and Density Scores Across the CO-SLAW Network



Value and Trust in Relationships

Understanding the perceived value of network relationships is important in leveraging the different ways in which members contribute to the network. Trust in network relationships facilitates effective information exchange and decision-making and reduces duplication of effort among groups that may have previously competed. The survey measured perceived value and trust between network partners using three validated dimensions for each concept. Survey participants assessed each of their reported relationships on these dimensions according to a 4-point scale, with 1 = Not at all, 2 = A small amount, 3 = A fair amount, and 4 = A great deal. Scores over 3 are considered the most positive. The bar graphs below depict the average value and trust scores in the network. **While the overall density and number of connections decreased, members' level of involvement increased from time 1 to time 2 (see Figure 10). Further, all measures of trust increased with openness to discussion showing the largest increase (see Figure 11).**

Figure 10. CO-SLAW Network Value Scores

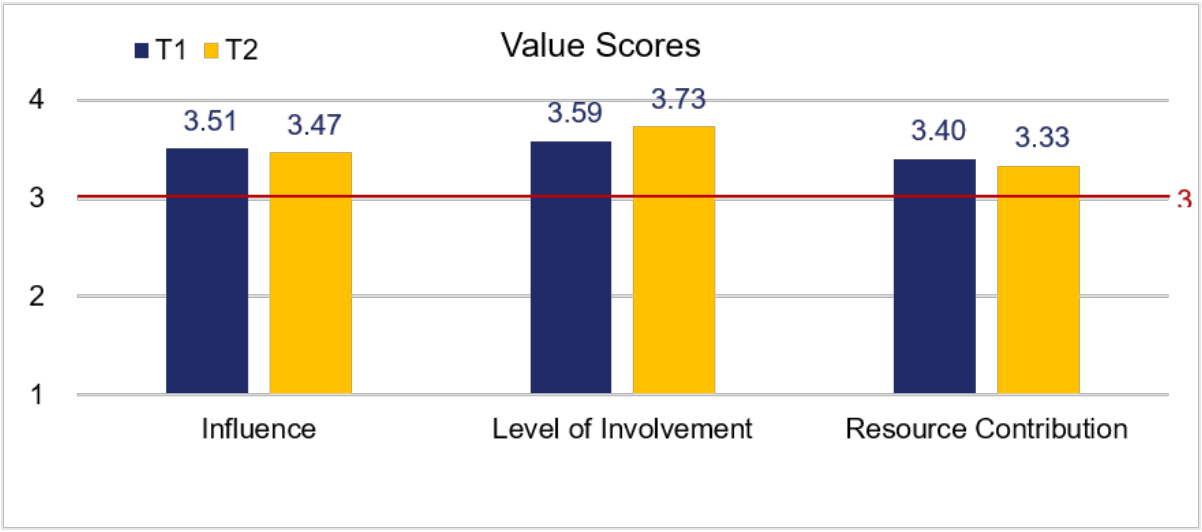
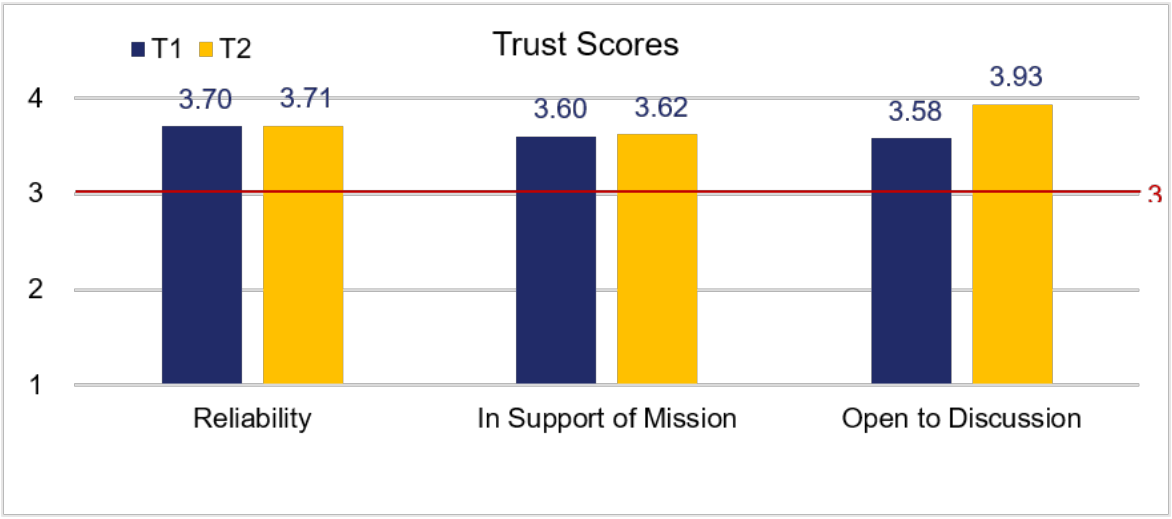


Figure 11. CO-SLAW Network Trust Scores



Network Interactions

At time 2, participants were asked how their organization engages with other organizations in CO-SLAW. Well over half of the participants reported that their organization was fully engaged with other organizations in the network (see Figure 12). No participants reported no partnerships. Participants were also asked a range of questions about how their organization interacts with other organizations in the network. At both time 1 and time 2, client referrals and treatment services were the most selected interactions (see Figure 13). **This indicates that the network is interacting with its members as intended.**

Figure 12. CO-SLAW Organizational Engagement

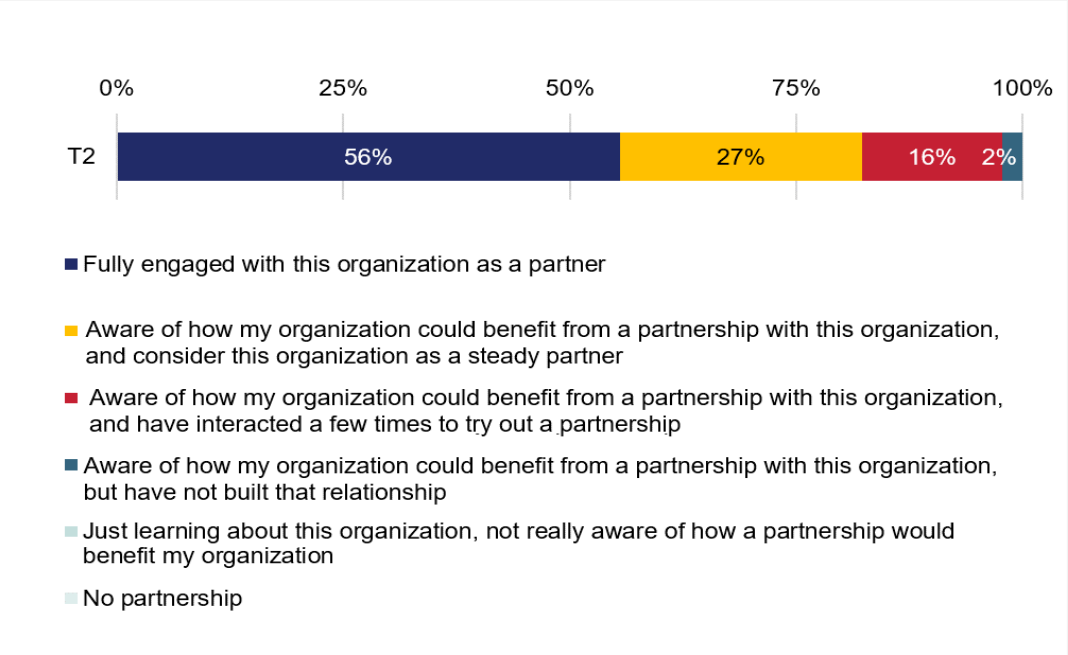
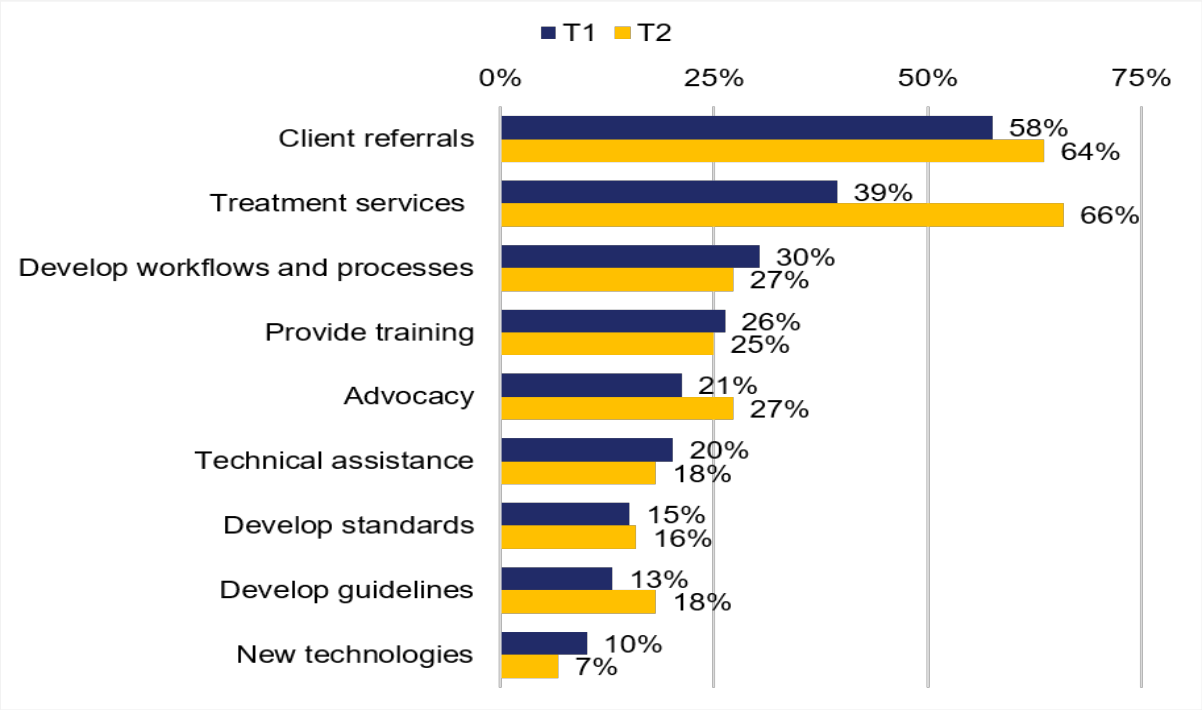


Figure 13. CO-SLAW Organizational Interactions



Goals and Seeing Success

Participants were asked about their perceptions of the network's goals and outcomes. At time 1, improved health outcomes, improved treatment services, and improved referral processes were among the most selected goals. At time 2, the most selected goals were improved treatment services and community engagement followed by improved health outcomes and improved resource sharing for providers (see Figure 14). **This suggests there is continued general agreement on the goals of the network, and the goal of improved health outcomes has emerged as most important over the development of the network.** Further, perception of success improved from time 1 to time 2. The share of members who believed the network has been "very successful" or "completely successful" increased (see Figure 15).

Figure 14. CO-SLAW Goal Agreement

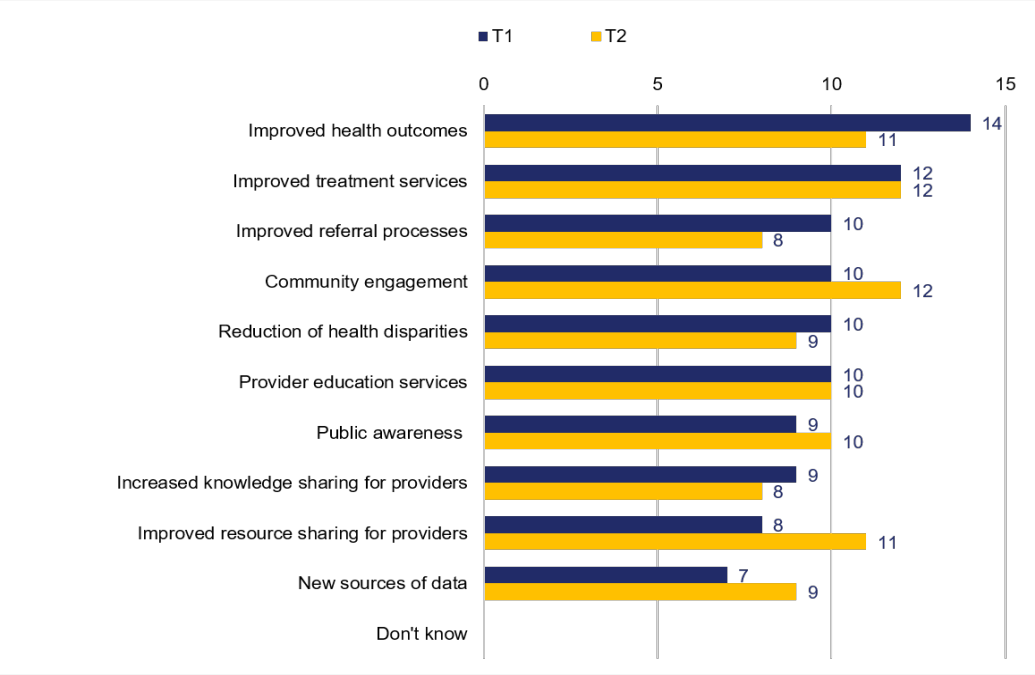
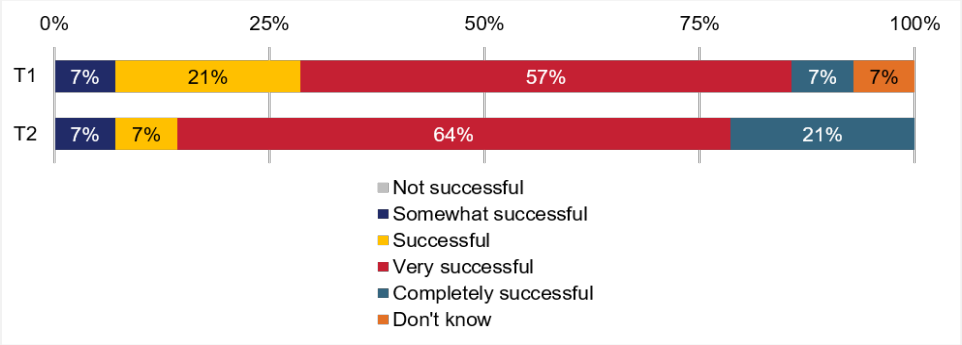
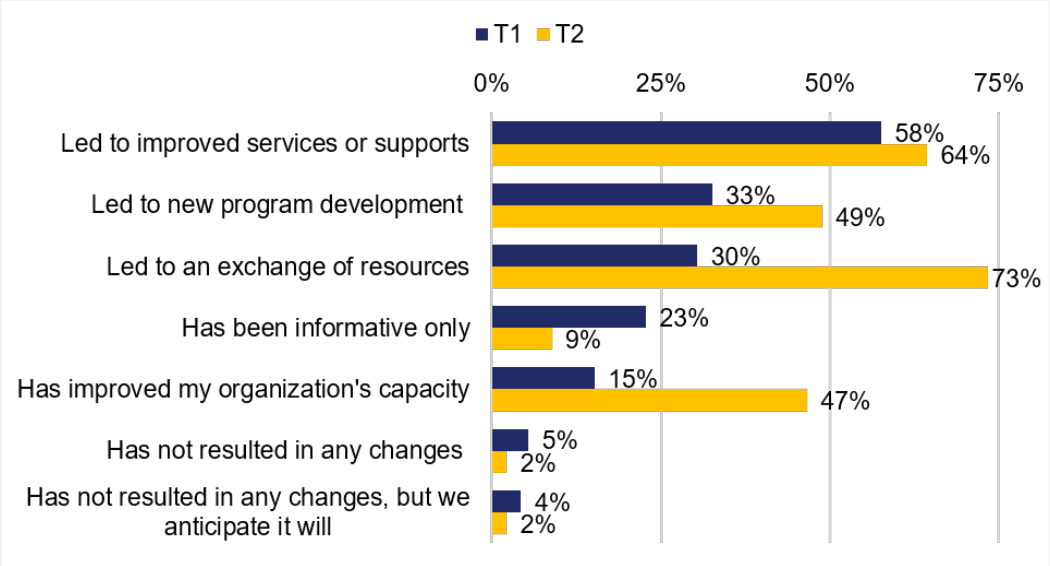


Figure 15. CO-SLAW Success in Goal Attainment



Participants were asked about their perceptions of CO-SLAW's outcomes. At time 1, the most selected outcome was "led to improved services or supports," followed by "led to new program development." At time 2, the most selected outcome was "led to an exchange of resources," followed by "led to improved services or supports" (see Figure 16). This suggests sizable growth in the exchange of resources over the development of the network.

Figure 16. CO-SLAW Perceived Outcomes



Key Social Network Analysis Findings

This analysis demonstrates that CO-SLAW has remained stable over time and grown in key areas of trust and value among its members. Even though network density decreased over time, the quality of the partnerships remained the same and, in some areas, increased as evidenced by improved trust and values scores. These findings demonstrate that the network can become more efficient while maintaining the quality needed to

achieve outcomes. Moreover, agreement on key goals and successes of the network remained stable over time with growth in the key area of resource sharing.

Larimer County Jail-Based MAT Services

This section highlights key findings of a separate evaluation of the Larimer County Jail MAT program (JUST NOCO), also conducted by the Butler Institute for Families, to demonstrate the impact of CO-SLAW's third goal: to initiate MAT in individuals with OUD experiencing transitions in care from hospitals, emergency departments, and incarcerated settings with formal referral into the CO-SLAW network of care. While JUST NOCO and CO-SLAW operate under different funding streams, the two projects are interconnected and leverage each other's resources to increase access to and engagement in care. A CO-SLAW care coordinator is assigned to the Larimer County Jail (LCJ) to support transition to community-based treatment as soon as an individual is enrolled in the jail-based MAT program. This provides the care coordinator the opportunity to evaluate individuals' needs and barriers to care and to collaboratively identify the most appropriate clinic for the individual to transition to for outpatient MAT. The CO-SLAW care coordinator then refers the individual to the CO-SLAW care coordinator at the selected clinic. Upon receiving the referral, the jail-based CO-SLAW care coordinator inputs a notification into VINELink to alert the clinic coordinator when the individual is released from jail. VINELink is a free and publicly available app that lets community members know when an individual has a change in custody. This system was implemented based on feedback and experience that the sooner the coordination team can communicate with the transitioned individual, the more likely the individual is to continue MAT.

The JUST NOCO program served 490 individuals with opioid use disorder in the second year of the program, from September 1, 2020, to August 31, 2021**.** This represents a 17% increase in the number of people served (405 clients were served during the first year of the program, October 1, 2019, through August 31, 2020).

On average there were 10.6 days (SD = 15.28) between intake into the LCJ and the date the individual first enrolled in JUST NOCO. This is more than a day faster than the program's first year when there was an average of 12.08 days (SD = 21.3) from intake to program enrollment, suggesting increased efficiencies in the program. September 1, 2020, to August 31, 2021, 66.5% of individuals enrolled in the program were induced on MAT and 33.5% continued with MAT.

Over 50% of individuals transitioned to community-based MAT from the jail-based MAT program.

Data were available for transitions of care between September 1, 2020, to February 28, 2021. During this time period, CO-SLAW care coordinators contacted 175 (69.2%) individuals receiving MAT in Larimer County Jail prior to the individuals' release. Significantly more individuals were contacted by a CO-SLAW care coordinator during this reporting period compared to the previous semi-annual period, 59% of individuals in the first reporting period compared to 69.2% in this reporting period ($X^2(1) = 6.06$, $p < .05$). Transition of care began soon after an individual started MAT in LCJ, with CO-SLAW care coordinators contacting individuals, on average, 11 days after

they started MAT. Days between MAT enrollment and CO-SLAW contact were significantly higher this reporting period compared to the previous semi-annual reporting period (October 1, 2019, through February 29, 2020) when individuals were contacted by a CO-SLAW coordinator on average 5 days after MAT enrollment ($t(233.70) = -3.59$, $p < .001$). Here, too, COVID-19 may have played a role given that staff may not have been physically able to contact individuals in the LCJ.

About two-thirds (67.3%) of individuals were contacted by CO-SLAW care coordinators within one week of starting MAT. Out of the 175 individuals contacted by CO-SLAW between September 1, 2020, and February 28, 2021, 98 (56%) were released from custody during the data collection period. Over 70 of those individuals (71.4%) were contacted by the CO-SLAW care coordinator more than one week before their release date. Forty-one of the 98 individuals released during the data collection period (41.8%) attended their community-based MAT treatment provider appointment post release. More than three-quarters (78%) of those individuals attended their community-based MAT provider appointment within a week of being released, with an average of five days after their release. It is important to point out that access to community-based care may have been limited by the COVID-19 pandemic. Pre-pandemic, during the previous reporting period from October 1, 2019, through February 29, 2020, 72% of individuals attended their community-based treatment provider appointments.

MAT Induction in the Emergency Department

Engagement with local hospital leadership and emergency department personnel training resulted in initiation of buprenorphine among emergency department providers across the two main hospital systems in Larimer and Weld counties – Banner Health and University of Colorado Health. This work continued in year 3. **At University of Colorado Health, 46 individuals received Suboxone inductions, and 32 of these individuals transitioned to a CO-SLAW MAT provider in the community (14 transitioned to withdrawal management or already had a provider). Twenty-five individuals remained engaged at the 3-month mark. At Banner Health emergency department, nine individuals transitioned to a CO-SLAW provider in year 3.** As COVID emerged and surged in the state, emergency department use declined and the people who did present for care tended to be sicker than prior to the pandemic (Hunter, 2020). This continued in year 3. Nevertheless, emergency department providers continued to identify individuals with OUD in withdrawal and offer buprenorphine initiation. Emergency department personnel utilized the CO-SLAW 1-800 telephone number to facilitate transitioning the individual into ongoing care at a robust treatment program that could meet the needs of the individual. The majority of individuals were seen within 24-48 hours of treatment initiation. When this was not possible, emergency department providers were willing to provide daily dosing for three days pursuant

Between years 2 and 3, there was a 28% increase in individuals who received initial MAT dosing in a hospital or emergency department setting.

to DEA regulations. Representatives from these transitions of care sites also regularly attended monthly CO-SLAW meetings.

Member Success Stories

CO-SLAW's care coordinators have had many success stories in year three. The three stories shared here from two different care coordinators and one peer coach illustrate the needs of the people served and the capacity of the COSLAW team to efficiently and effectively meet these needs. Stories have been edited for brevity.

"I received a referral from the Larimer County Jail. I was told the client was released and was now over at the work release program. I called to talk with her. I picked up the one-week prescription for this member and brought it to her at her work release program, since she had not been approved to leave yet. When I met with her she told me that she wanted to switch from suboxone to methadone because suboxone had not worked well for her in the past. I set up an intake appointment for her at a provider for the next week. I met with her at this appointment to learn more about her treatment needs and how to best help her. She let me know she was moving back to another city once her work release program was done so I talked with her about another provider that would be local to her once she went back home. I also helped her get set up with a primary care doctor so she could get started back on her birth control. Once her sentence at work release was up, I helped facilitate her transfer to the new MAT provider in her city and set up Intelliride to transport her daily. She is still in treatment. She is sober, working, and rebuilding relationships with her family."

"He is taking his Suboxone regularly and attending his appointments. Until the day that he doesn't need me, I'll be right there."

"I first met this client's family through our CRAFT group. She said her son was using large quantities of fentanyl and he was involved with the criminal justice system. I offered to meet with him, and his mom invited me to their home. When I arrived, his mom sat me at the kitchen table. I brought a box of Narcan and sat it on the table in front of me. When the client walked in he had let me know that his father had advised him that he doesn't have to or shouldn't speak with me. I let him know that I wasn't there for his father or mother, I was there for him. I said I brought this for you, pointing towards the Narcan. He said he didn't need it. I left it on the table, and I began to share my story. He listened. I noticed he looked like he was holding back and kept looking towards his mom. I asked her if we could speak in private. She left the house to sit in her car. He began to talk immediately, saying that his family didn't understand addiction and that they could not relate to what he is going through. We talked for an hour about his use and my use and the differences and similarities of our lives. We connected. He opened up. He then walked away and came back with a small bag and threw it on the table in front of me. It had about 30 pills in it, he said that would last him two days. I knew I had to say something to get him to try MAT again. I shared with him the names of seven people that I knew that had died from fentanyl overdose in

the last year and said I did not want to add his name to that list. His mood changed. I said let's talk to your doctor next week at your appointment. He agreed and asked if I would go with him.

I arrived early at the appointment to discuss his case with his care manager and doctor to come up with a care plan. After visiting we met with the client and talked about appropriate medication and dosing options and how we could keep him from using. I continued attending his appointments and keeping close contact with him. His doctor worked hard to get his Suboxone dosing to the right levels and we did all we could to make this young man as comfortable as we could as he faced severe withdrawal. We made progress slowly and painfully. I had never worked so close with a doctor and was moved by the amount of personal care being provided. I answered many calls to a young man crying in pain. Sometimes I didn't even talk, I just answered the phone and listened to him tell me how much it hurt. Other times I just let him know that it will get better. He is getting better everyday. He is taking his suboxone regularly and attending his appointments. Until the day that he doesn't need me, I'll be right there."

"John (not his real name) was disabled, senior in age, homeless for 4 years, and experiencing alcohol use disorder and substance use disorder. When we first met I asked what his him about his goals and he said he wanted to go to detox and then another possible inpatient treatment so that he could save enough money earned through disability to get his own place and get off the streets. He entered a detox program shortly afterwards but after three days he was discharged to the street. I kept in close communication with John at the Housing Navigation Center and over the phone. He struggled to find a place to stay and he saw his options as tented area, another person's motel room where everyone was using or walking around until he couldn't any longer. He did not trust many people and really refused to engage with anyone else but me. There were times he was not able to make it to the housing navigation center to eat so I would deliver food to him. This all continued until it got to be too much for him. Finally, a few months later, I was able to talk him into engaging with our Housing Navigators. Again, John went voluntarily to a detox program and a few days later, he signed his lease and got his keys to his very own apartment! For the first week John did not have anything in his apartment except for himself and his clothes. We helped make his apartment a little more comfortable by getting vouchers for furniture, helping him move it in, getting him food boxes, delivering his mail to him and doing house visits and having daily communication for his support. John has just paid his second month of rent, has reduced his use because he is no longer on the streets and has become comfortable working with others besides me to get the support that he needs to be successful!"

Innovations and Promising Practices

The CO-SLAW project has implemented a number of innovations and promising practices they can share with the field. These include:

- Developing, implementing, and sustaining a diverse coalition of community stakeholders (NOCO CARES) from across the region to advance access to effective SUD treatment and opioid overdose prevention.

- Developing and implementing a comprehensive, diverse network of care based on shared values, goals, and philosophies of practice.
- Developing and implementing innovative community outreach efforts to raise awareness.
- Developing and implementing learning communities for providers, including waiver trainings.
- Providing intensive case-management services across a diverse network of providers to increase access to and engagement with OUD treatment as evidenced by positive member outcomes.
- Collaborating and coordinating with transitions of care sites, most notably in jails and emergency departments, to increase access to and engagement with OUD treatment as evidenced by people with OUD having increased community-based treatment engagement.
- Facilitating ease of access to care coordination services through a 1-800 telephone number marketed to community members, health care and recovery professionals, and affected persons.
- Supporting jails to build and implement MAT clinics to allow inmates to continue or begin MAT.
- Building innovative programs through community collaborations to increase access to naloxone.

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Appendix: How to Read Statistics

STATISTICAL TEST	DESCRIPTION	EXAMPLE	NOTATIONS
Correlation (Pearson's r)	**Describes the relationship between two variables.** A **positive correlation** is when variables move similar directions- as one increases, the other increases. A **negative correlation** is when the variables move in opposite directions- as one increases, the other decreases.	Is there a relationship between the heroin and methamphetamine use? There was a positive correlation between the number of days members used heroin and methamphetamine at intake (***r*=.520, *p*<.001**) and 6 months (***r*=.546, *p*<.001**).	***r, χ2,* or *t*:** Type of statistic (correlation, chi-squared, or *t*-test). **(degree of freedom):** Degrees of freedom is an estimate of the number of independent pieces of information that went into calculating the statistic. For most tests the degree of freedom will be one less than the number of people in a sample or one less than the number of groups if you're comparing categories. **=number**: In correlations, the closer the number is to +1 or -1, the stronger the correlation. In *t*-tests, the farther the number is from zero, the more the groups are different and the more replicable the findings may be. ***p*:** The *p* value is important because it shows the probability of a result being due to chance. A *p* value that is less than .05 means that the result is statistically significant because the likelihood of the result being due to chance is less than 5%. ***n***: The size of the sample. ***SD***: Standard Deviation is how much a score differs from the average.
Chi-square test (χ2)	**Compares expected count to actual count between two groups.** The **expected count** is the number of times something is statistically estimated to occur, while the **actual count** is the number of times something actually occurs.	Are the 6-month follow-up interview completion rates significantly different between members that live in stable housing and those that do not? Yes, members that live in unstable housing completed fewer than expected 6-month follow-up interviews **(χ2(1)= 5.189, *p*=0.023)**.	
Paired samples t-test (t)	**Compares averages between two time points.**	Does heroin use decrease from intake to 6-months? Yes, the number of days heroin was used significantly decreased from intake to 6-months **(*t*(198)= 3.459, *p*=.001)**.	
Independent samples t-test (t)	**Compares averages between two groups.**	Do the number of days members have trouble understanding significantly impact their 6-month follow-up rate? Members who had more days of trouble understanding were significantly less likely to complete their 6-month follow-up interview **(*t*(260)= 2.115, *p*=.035)**.	