Cuyahoga County
Overdose Data to Action Initiative

Final Evaluation Report
August 2019-September 2023

CUYAHOGA COUNTY
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CASE WESTERN RESERVE UNIVERSITY
Jack, Joseph and Morton Mandel School of Applied Social Sciences

Cuyahoga County
Overdose Data to Action (CCOD2A Initiative)

Final Evaluation Report (2023)

Acknowledgements

The Begun Center for Violence Prevention Research and Education, Jack, Joseph and Morton Mandel School of Applied Social Sciences, Case Western Reserve University promotes social justice and community development by conducting applied, community-based and interdisciplinary research on the causes and prevention of violence, and by educating and training social workers, teachers, law enforcement and other professionals in the principles of effective violence prevention. The Center also develops and evaluates the impact of evidence-based best practices in violence prevention and intervention, and seeks to understand the influence of mental health, substance use, youth development and related issues on violent behavior and public health.

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Introduction

The Begun Center for Violence Prevention Research and Education (Begun Center) at Case Western Reserve University served as the evaluator for the Cuyahoga County Board of Health (CCBH) Cuyahoga County Overdose Data to Action (CCOD2A) Initiative funded by the Centers for Disease Control and Prevention (CDC) grant, 5-NU17CE925005-02-00. The overarching purpose of the CCOD2A was to obtain high-quality, comprehensive, and timely data on overdose morbidity and mortality and to use those data to inform prevention and response efforts.

This final report summarizes the activities for the CCOD2A Initiative which spanned four years (September 1, 2019 - August 31, 2023) as well as highlighting activities that occurred in the fourth year of the grant. Activities are centered on strategies identified by the CDC. ***Strategy Three*** focuses on surveillance and ***Strategies Four*** through ***Eight*** address prevention and intervention efforts.

In addition to the Begun Center and the Cuyahoga County Board of Health, there were twelve partner agencies in the last year of the project: the ADAMHS Board of Cuyahoga County, Cuyahoga County Medical Examiner's Office, Center for Health Affairs, The Centers (formally Circle Health Services), Cleveland State University, MetroHealth, St. Vincent Charity Medical Center, Sisters of Charity, Thrive Peer Support, Thrive for Change and The Woodrow Project. In previous years, the Cleveland Division of Police, the Educational Services Center of Northeast Ohio, and PAXIS were also part of the grant.

The following is a list of acronyms used to identify partner agencies.

ADAMHSBCC	Alcohol Drug Addiction and Mental Health Services Board of Cuyahoga County
Begun Center	Begun Center for Violence Prevention Research and Education
CCBH	Cuyahoga County Board of Health
CCMEO	Cuyahoga County Medical Examiner's Office
CDP	Cleveland Division of Police
CHA	Center for Health Affairs
Centers	Centers for Families and Children
CSU	Cleveland State University
ESC-NEO	Educational Service Center of Northeast Ohio
MetroHealth	Metro Health Medical Center
PAXIS	PAXIS Institute
SVCMC	St. Vincent Charity Medical Center
SoC	Sisters of Charity
Thrive	Thrive Behavioral Health Center
Thrive4Change	Thrive for Change
Woodrow	The Woodrow Project

Major accomplishments and findings from the evaluation for the project are summarized in this report. Outcome measures associated with each activity provide quantitative data measuring the success of each strategy. Qualitative data was collected via partner agencies' self-reported documentation of activity implementation, barriers encountered, innovative ideas and client success stories.

Evaluation Design and Reporting

Institutional Review Board Review

The Case Western Reserve University's Institutional Review Board (IRB) determination that the evaluation was not research involving human subjects remained in effect during the project. IRB approval and monitoring was not required. No additional IRB submissions or modifications were made in Year Four.

Methods

The evaluation employed multiple methods to facilitate a comprehensive integration and analysis of primary and secondary data, including outcome and process measures to assess Cuyahoga County's effectiveness in acquiring data on opioid prescribing, understanding local opioid-related morbidity and mortality, and assessing the ability of the CCOD2A to use these data to inform prevention. Some data collection occurred within partner agencies and data also were accessed from multiple community and law enforcement agencies.

Surveillance project analysis. Cuyahoga County established relationships with community and state agencies that afforded access to various datasets that improved understanding of the drug overdose (OD) burden locally. Surveillance data generated from the CCOD2A Initiative included these data and expanded on this information in order to develop a surveillance infrastructure that: 1) provided data to inform the CCOD2A prevention strategies to generate greater insight for action and drive prevention and response activities; 2) created comprehensive drug overdose epidemiologic profiles; 3) allowed for more timely dissemination of drug overdose related information; and 4) created a mechanism for sharing data with local (including the public), state, and federal partners.

Other data collection. Additional data collection included local Naloxone distribution by Cuyahoga County EMS, Ohio Department of Public Safety Division of EMS, Ohio EMS Incidence Reporting System and data from the State of Ohio Board of Pharmacy. Data sources also included the ODH Office of Vital Statistics, EpiCenter data, Cuyahoga County Drug Courts data, data identifying local-Ohio High Intensity Drug Trafficking areas, and Cuyahoga County Regional Forensics Science Lab and DEA National Forensics Lab Information System (NFLIS-Drug) data. Partner agencies also provided data tracking referrals and linkages to treatment services, training, etc.

Online Surveys. Data collection methods included secure surveys of selected partners, programs and service providers using REDCap. Access and use of REDCap was made possible through the Clinical and Translational Science Award (UL1TR002548). REDCap allows evaluators to develop and distribute online assessments and send and track participant invitations and reminders. REDCap accommodates online surveys containing quantitative and qualitative methods. Data inputted into REDCap are compatible with Excel, SPSS, R, and SAS, which allows for more rigorous data analyses. Online surveys were also used to assess the effectiveness of all CCOD2A Initiative training efforts.

Focus groups and interviews. The Begun Center also collected data relating to CCOD2A process development and implementation. The process evaluation was conducted on an ongoing basis and data were also collected annually via focus groups and interviews with agencies and organizations participating in the project. The focus groups/interviews provided an opportunity to explore descriptions of protocols, experiences, perceptions, and opinions of barriers that hindered the ability to collect real-time opioid prescribing, morbidity and mortality data used to inform prevention. Questions also examined barriers and successes in reaching users and linking them to treatment. Qualitative data from the focus groups are included in this report in quotes and themes in conjunction with the quantitative findings. The direct quotes contain very minor edits and points of clarification appearing in brackets.

Sharing and accessing data among collaborators was determined based upon the type of data collected and the risk category for the type of data being accessed or shared. Data that carried a higher risk priority included requirements for data transmission through a secure data environment (SDE), such as identified data that included personal health information (PHI). CWRU's SDE provides services for storing and analyzing sensitive evaluation data in line with regulatory standards including HIPAA and FISMA. This included data access and transfer via encrypted USBs and laptops. CWRU maintains a private cloud environment that delivers virtual desktops, and a secure internal network for web application delivery using a risk-based information security program, which includes the implementation of controls that meet recommendations or requirements of regulatory and information security standards. Data dictionaries, codebooks and other documentation relevant to using the datasets were included in the repository.

For this report, the information collected from the partner agencies is reported by strategy, then by activity. During the CCOD2A Initiative, data collection tools for each agency continued to be refined and revised, with REDCap serving as the primary data collection tool for monthly reporting by partner agencies. Although the overarching objective was consistency in the monthly data reported from partner agencies, there were differences in data collected from each agency due to the variability in programs and services.

Long Term Outcomes

The CCOD2A identified several long-term outcomes to assess patterns and trends related to opioid use among residents of Cuyahoga County. Some of these outcomes were required as part of the application for funding and others were identified as important for measuring the impact of the initiative.

Agencies

Cuyahoga County Board of Health (CCBH)

The Begun Center for Violence Prevention Research and Education (Begun Center)

In the last four years of the CCOD2A Initiative, there has been an increase in the number of evidence-based programs and/or services (EBPs) in Cuyahoga County as recorded by *drughelp.care*. The initiative has also seen increases in the linkages to treatment for individuals who have experienced a nonfatal overdose and/or individuals with opioid use or substance use disorders. Despite an increase in the number of nonfatal overdoses and prevalence of individuals with opioid use disorder, there has been a decrease in the number of emergency department (ED) visits for suspected drug overdose. One factor in this decrease may be the increased utilization of harm reduction strategies such as the availability and private use of naloxone and fentanyl test strips, which may result in a reduction of calls to first responders and corresponding transports to the EDs. The continued increase in fatal overdoses in Cuyahoga County over the last several years illustrates the impact opioids and opioid analogs, especially fentanyl, have had in the county. Long-term outcomes are summarized in Table 1. Data is reported based on a calendar year basis unless otherwise noted.

Table 1

CCOD2A Long Term Outcomes from September 2019 to August 2023

Description	Baseline (2018)	YR 1 Data (2019)	YR2 Data (2020)	YR3 Data (2021)	YR4 Data (2022)	Outcome Status
Prevalence of Opioid Misuse and Opioid Use Disorder	16,474	17,155	17,321	17,962	18,619[a]	**Increase of 13% from baseline to Year Four**
Evidence-based Treatment for OUD	N/A	1,280	2,208	2,839	3,209	**Over 100% increase from Year One to Year Four**
Emergency Department Visits for Suspected Overdose	1678	1,585	1,539	1,290	1,288	**Decrease of 23% from baseline to Year Four**
Unintentional Drug Overdose Death Rate[b]	32.71	34.65	37.64	44.32	Not available[c]	**Increase of 35% from baseline to Year Three**
Linkage of Nonfatal Overdose Clients to Treatment[d]	Not collected	463	748	720	799	**Increase of 71% from Year One**

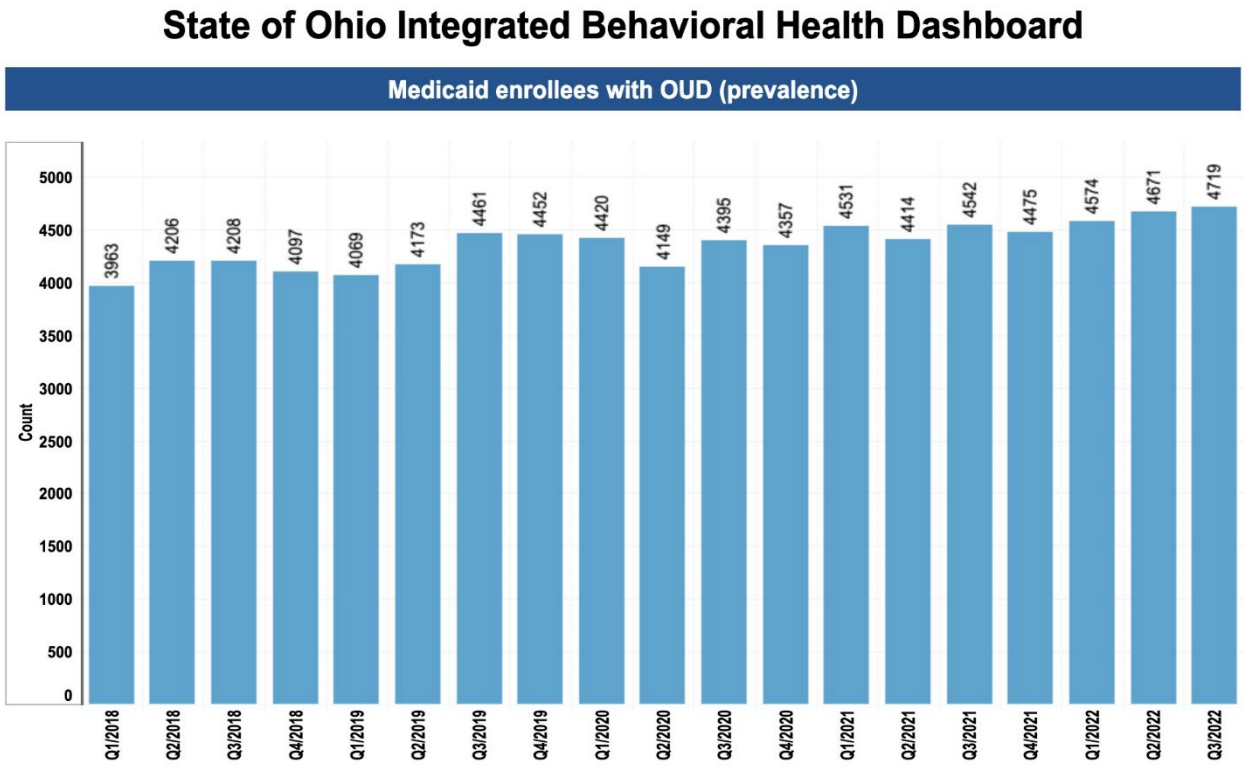
[a]2022 data is still considered preliminary therefore subject to change.
[b]Rate is per 100,000 individuals.
[c]Year Four cannot be calculated at this time as Q4 data has not been made available.
[d]Data is reported based on the grant year, and only counts linkage in those agencies being tracked by the grant.

Prevalence of Opioid Misuse and Opioid Use Disorder

To examine rates of opioid misuse and opioid use disorder CCBH monitors Medicaid data from the state. Rates were calculated based on the number of Cuyahoga County Medicaid persons enrolled with a diagnosis of OUD. Data were available quarterly, but there was a reporting lag of six months. In 2018 (baseline), the number of Medicaid enrollees with OUD was 16,474. The number of enrollees has slightly increased each year (Figure 1). The last quarter for 2022 was not available so the year was estimated based on an average of the first three quarters used as the final quarter number. From baseline to Year Four, the number increased by 13%. Although the prevalence of OUD has increased, not decreased in the last several years, this may be due to better screening or tracking of OUD by medical providers.

Figure 1

Cuyahoga County Medicaid Enrollees with OUD (Prevalence)



Measure Description: Medicaid enrollees with OUD diagnosis
Data source: ODM:Medicaid Claims and Enrollment | **Values suppressed are:** numerator or denominator 1-10
Reporting Lag: 6 months | **Stability Lag**: 12 months
First reported: January 2018 | **Last reported:** July 2022 | **Last updated:** March 2023
County: Cuyahoga | **Measure number:** 2.4 | **Age range:** 18-64
Notes: NA

Evidence-based Treatment for OUD

To evaluate the availability of evidence-based treatment for OUD in Cuyahoga County, data collected by Cleveland State University (CSU) served as the primary source of county-wide evidence-based services. CSU collected information on the number of registered services in Cuyahoga County utilizing evidence-based practices (EBPs) from 2019 to 2022 on *drughelp.care*. Nine different EBPs were identified (Table 2). The data reported below is based on a calendar year cycle and not the grant-funded cycle.

Table 2

Evidence-Based Practices on drughelp.care from September 2019 to August 2023

	Active Services				
Evidence-Based Practice	**Year One (2019)**	**Year Two (2020)**	**Year Three (2021)**	**Year Four (2022)**	**Change (n) ↑**
Cognitive Behavioral Therapy (CBT)	47	172	291	283	**236**
Motivational Interviewing	238	381	480	476	**238**
Harm Reduction	111	189	296	288	**177**
MAT (Buprenorphine, Methadone or Vivitrol) and Allow (but don't prescribe)	210	367	557	627	**417**
Twelve-Step Programs	201	316	407	389	**188**
Psychoeducation	124	222	332	320	**196**
Dialectical Behavior Therapy (DBT)	127	200	290	283	**156**
Trauma Focused Counseling	183	319	416	414	**231**
Contingency Management Therapy	39	42	130	129	**90**
Total	1,280	2,208	2,839	3,209	**1,929**

From 2019 to 2022 the number of EBPs offered by agencies registered on *drughelp.care* increased by over 100%. Please note that the reported data only includes data collected from agencies registered on the website and not from additional agencies in Cuyahoga County who provide EBPs for OUD but are not registered with *drughelp.care*. It is also important to note that increases may also be attributed to more agencies registering on the website throughout the grant, not necessarily more services being offered in a particular year.

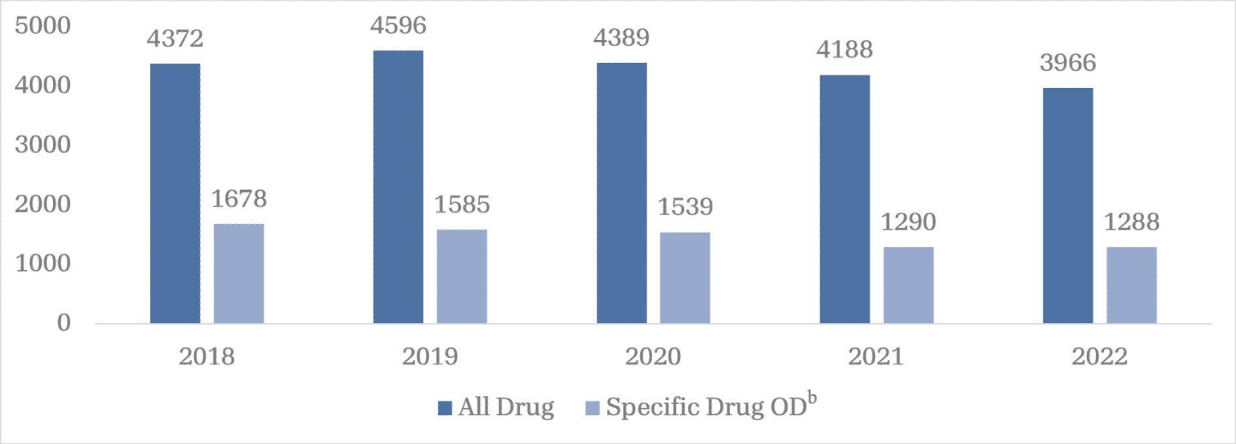
Emergency Department Visits for Suspected Overdose

EpiCenter data was used to examine emergency department visits for suspected drug overdoses (Figure 2). At baseline there were 1678 suspected drug overdoses in Cuyahoga County due to opioids/heroin and/or stimulants. The number has declined over the last few years. The number decreased to 1288 for 2022 representing a 23% decrease. While there has been a decrease in the number of emergency

department visits for suspected drug overdose, one reason may be due to increased harm reduction efforts, including availability and private use of naloxone and fentanyl test strips, thus reducing calls to first responders and corresponding transports to the EDs.

Figure 2

Number of Emergency Department Visits for Suspected Drug Overdoses in Cuyahoga County, 2018-2022[a]



[a]2022 data is still considered preliminary therefore subject to change
[b]Specific Drug overdose (OD) describes Suspected Drug Overdoses due to opioid/heroin and/or stimulants.

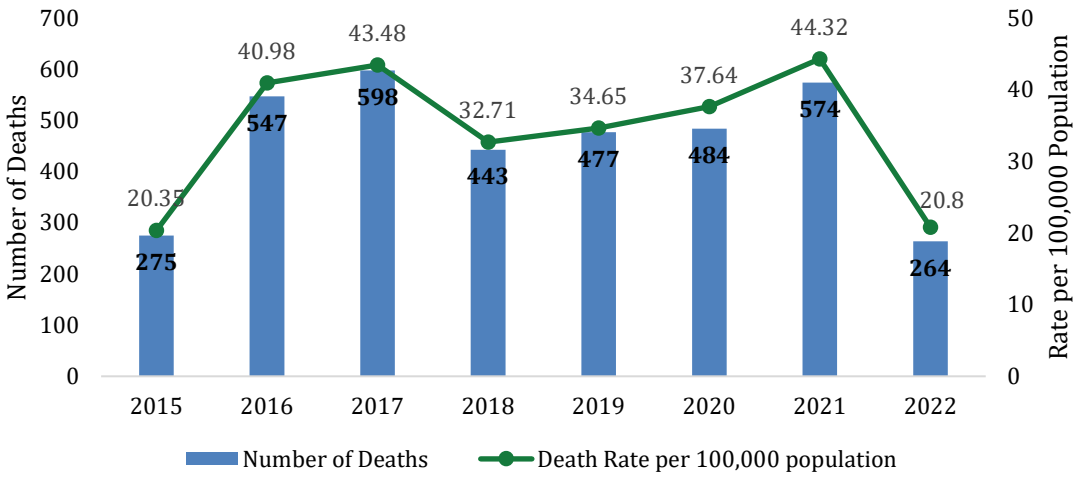
Unintentional Drug Overdose Death Rate

Vital Statistics and American Community Survey (ACS) population data for Cuyahoga County was used to assess unintentional drug overdose death rates (Figure 3). The unintentional drug overdose age-adjusted death rate at baseline was 32.71 per 100,000 population. Death rates were age-adjusted to the 2000 U.S. standard population to allow comparisons between different populations. In 2020, the rate was 37.64 per 100,000, a slight increase from baseline. In 2021, the age-adjusted rate increased to 44.32 per 100,000. Although a full year of data was not available for 2022, the mid-year age-adjusted death rate was 20.80 per 100,000. Based on this, the preliminary projected rate for 2022 would be 41.6 per 100,000, which would represent a small decline.

"Our numbers are so high, but then I have to think about what would it be like if we weren't doing this work?"
-CCOD2A Focus Group Participant

Figure 3

Number and Age-Adjusted Rate of Unintentional Drug Overdose Deaths in Cuyahoga County, 2015-2022[a]



[a]2022 Data only reflects the first 6 months of 2022; therefore, it is preliminary and incomplete.

Linkage of Nonfatal Overdose Clients to Treatment

Linkage to treatment was derived from evaluation data collected from partner agencies who participated in the grant. Data is not routinely collected in Cuyahoga County regarding whether clients link with treatment following a nonfatal overdose and/or treatment for OUD or SUD, therefore, only data from the evaluation of the CCOD2A Initiative were available. The programs that provided individual level service and linkage to treatment included Thrive and Woodrow's Peer Recovery (PR) Services, MetroHealth's ExAM program, The Centers' Syringe Services Program, SVCMC's Screening, Brief Intervention, and Referral to Treatment (SBIRT) program, Sisters of Charity's Crisis and Recovery Center, and MetroHealth's Quick Response Team (QRT). In Year One, 463 individuals were reported as linked to treatment, compared to 748 in Year Two, 720 in Year Three, and 799 in Year Four. One reason for the dramatic increase from Year One to subsequent years was due to additional hospitals added to the PR Services program. More detailed analyses of clients' linkage to treatment, broken down by each program, can be found in Strategies Six (Linkage to Care) and Eight (Partnerships with Public Safety and First Responders).

Strategy Three - Surveillance

Agencies

Cuyahoga County Board of Health (CCBH)

The Begun Center for Violence Prevention Research and Education (Begun Center)

Cuyahoga County Medical Examiner's Office (CCMEO)

Strategy Three focused on developing and implementing innovative surveillance of nonfatal and fatal opioid overdoses in Cuyahoga County to disseminate lessons learned and inform prevention strategies. Efforts focused on the collection and integration of diverse datasets from both public and private data sources. Several data surveillance activities were associated with Cuyahoga County's OD2A Strategy Three. The targeted activities were:

- Assess data sources for quality and linkage availability;
- Develop a drug overdose integrated epidemiologic profile;
- Identify trends, patterns, and risk factors of overdose;
- Link and overlay OD data from different sources to enhance OD surveillance;
- Enhance and maintain a communication framework and timely data sharing with local, state and federal stakeholders; and
- Assess and respond to prevention partner data to action needs.

Assess Data Sources for Quality and Linkage Ability

Each year the CCOD2A surveillance team identified data from various sources to monitor and report on key indicators, primarily disseminating findings through the Overdose Data Dashboard, the Quarterly Surveillance Bulletin, and the Drug Overdose Integrated Epidemiological Profile (DOIEP). Data sources included:

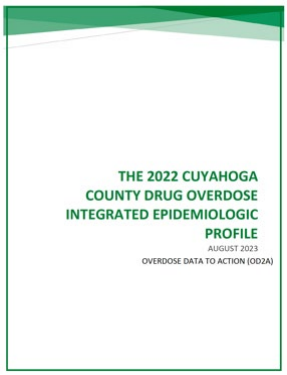
- Overdose death data (CCMEO and Vital Statistics);
- Drug lab testing data (Cuyahoga County Regional Forensics Science Lab and DEA National Forensics Lab Information System (NFLIS-Drug));
- Prescription Drug Data (Ohio Automated Rx Reporting System);
- Emergency Department Visits Data (EpiCenter);
- Project DAWN (Deaths Avoided with Naloxone) Data (ODH);
- EMS Naloxone Administration Data (Ohio EMS Incidence Reporting System); and
- Drug Seizure Data (U.S. Customs and Border Protection).

Surveillance data informed CCOD2A activities to drive more effective prevention and response activities. The reporting and linking of these data sources also facilitated countywide intervention and prevention efforts, targeting harm reduction services in high burden areas of opioid overdose and nonfatal incidents. However, the data were always changing as one CCOD2A Focus Group Participant noted:

> *This particular subject matter is pretty complicated and things are changing constantly. And so, with that, like the surveillance data has to change too. And I think this group has done a good job of*

trying to quickly pick up those different types of data sources and incorporate them into the grant, but I feel like that's going to continue as we look forward to sustainability, long-term that things are going to be constantly changing as the drug supply changes. - CCOD2A Focus Group Participant

Drug Overdose Integrated Epidemiological Profile (DOIEP)



The DOIEP combines multiple data sources to create a comprehensive picture of the drug overdose burden in Cuyahoga County. These data include (a) drug mortality from Ohio Vital Statistics, (b) syndromic surveillance data for nonfatal overdoses through EpiCenter, and (c) the Ohio Department of Public Safety's Emergency Medical Services Incidence Reporting System (EMSIRS) which records naloxone dose administrations provided by local, participating EMS agencies, among other data sources. The DOIEP includes descriptive statistics, rates, and geographic analyses. The CCBH has published three DOIEPs. CCOD2A partners and staff recognized the benefit of the information provided by the DOIEP.

I think we have a better understanding of disparities and in subgroups that are you know, getting hit harder than others. Now since we are doing so much analytics, definitely I feel like [we] can see the drug types/drug supply changes over time, more now than ever. - CCOD2A Focus Group Participant

The assessments of the epidemiology of the overdose crisis in the county, as outlined in the DOIEP, is an essential component of overdose prevention, as it provides information to effectively guide prevention and care activities for diverse organizations. The profile also provides education and insight for healthcare providers, first responders, policymakers, and other stakeholders, including the public.

The DOIEP combines multiple data sources to create a comprehensive picture of the drug overdose burden in Cuyahoga County.

DOIEP Key findings comparing 2020 to 2021 for Cuyahoga County:

- 38% increase in unintentional drug overdose deaths among Black men;
- 62% increase in unintentional drug overdose deaths among White women;
- 55% increase in unintentional drug overdose deaths in the 65 and older age group;
- 43% increase in overdose deaths involving cocaine;
- 57% increase in overdose deaths involving both psychostimulants and opioids;
- 92% decrease in drug-related deaths involving carfentanil, which has largely disappeared from the local drug supply according to law enforcement and toxicology data; and
- 27% decrease in drug-related deaths involving heroin, continuing a trend observed since 2016.

Identify Trends, Patterns and Risk Factors of Overdose

The CCOD2A surveillance team monitored and accessed CCMEO overdose drug deaths and Ohio Department of Health's Vital Statistics data.[1] For non-fatal overdoses, the surveillance team monitored the number of EMS events categorized as suspected opioid poisonings and emergency department visits for suspected overdose as indicators. While these numbers appeared to be encouraging signs of a potential decline in overdoses over the last three years, early estimates for 2023 indicate sharp increases. These spikes could potentially set new records for emergency room visits and EMS responses to suspected overdoses (Table 3). It is also difficult to determine the impact the COVID-19 pandemic played on these trends.

> *Another surprise was COVID. That just impacted everything. And it made it I guess, maybe tougher to interpret the trends as well. Like, is it due to changes in our initiatives and this drug supply ...or is it just that the impacts of COVID on every sort of facet of life, changing availability of treatment and isolation and all these other things?* - CCOD2A Focus Group Participant.

Table 3

Key CCOD2A Public Health Surveillance Indicators for Cuyahoga County, Ohio, 2019-2023[2]

Cuyahoga County Surveillance Indicator	2019	2020	2021	2022	2023
Drug-Related Deaths	582	553	675	642	736[a]
EMS Events with Suspected Opioid Poisoning	2,029	1,829	1,872	1,809	Not Available
Emergency Department Suspected Overdoses	4,596	4,389	4,188	3,966	Not Available
Project DAWN Naloxone Kits Distributed	4,432	8,347	14,547	23,860	41,542[a]
Opioid Prescriptions (thousands)	530	487	480	435	413[a]

[a] Data is still considered preliminary therefore subject to change

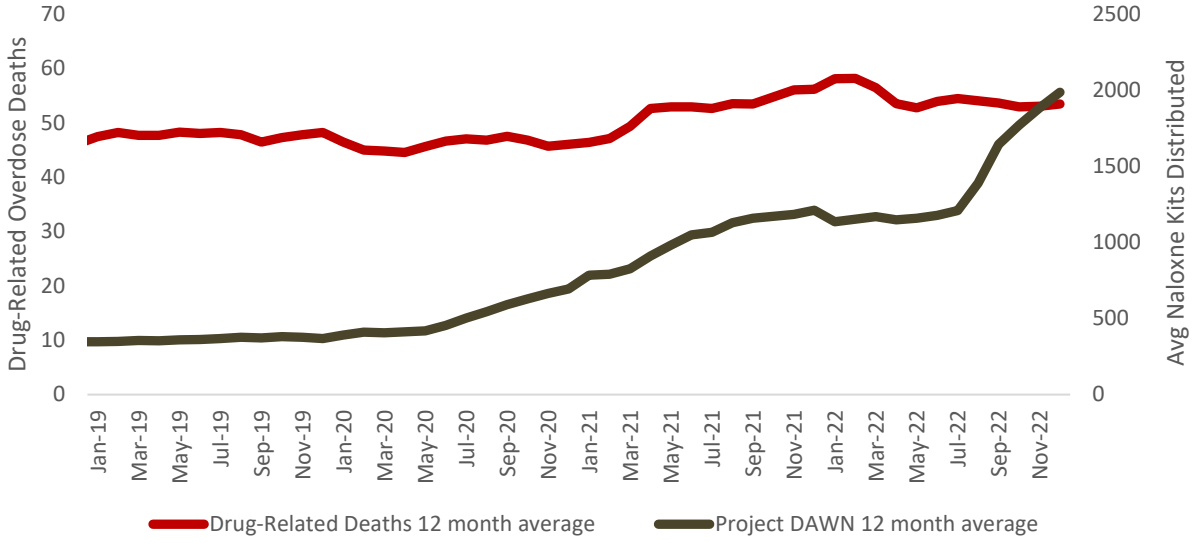
[1] Two Forensic Epidemiologist's at the CCMEO were members of the CCOD2A surveillance team and provided immediate access to drug-related death information, as required for public health surveillance efforts.

[2] Drug-Related Deaths: CCMEO Overdose Statistics (https://cuyahogacms.blob.core.windows.net/home/docs/default-source/me-library/heroin-fentanyl-cocaine-deaths/2023/sep2023-heroinfentanyl.pdf?sfvrsn=2dcbbdb_3); Emergency Department Suspected Overdoses: Epicenter (Syndromic Surveillance) accessed by CCBH; Opioid Prescriptions: Ohio Board of Pharmacy (https://www.ohiopmp.gov/stats), annual estimate derived from quarterly average based on first three quarters of 2023 as of 11/15/2023 (309,761); Project DAWN Naloxone Kit Distribution source ODH/Data Ohio (https://data.ohio.gov/wps/portal/gov/data/view/project-dawn-monthly-distribution-log-data), annual estimate derived from monthly average for first seven months of 2023 distribution totals (24,233).

The distribution of naloxone in the county has risen significantly each year since 2019, as indicated by data from Ohio's Project DAWN. Figure 4 presents a 12-month rolling average of naloxone units distributed by Project DAWN and the number of overdose deaths from January 2019 to December 2022. The rise in the distribution of naloxone kits corresponds to the need in the community as evidenced by the increasing and sustained high numbers of overdose deaths and well as increased harm reduction efforts occurring under CCOD2A. It's important to note that this observation does not imply a causal link between naloxone distribution and drug mortality rates; harm reduction efforts, such as naloxone distribution, are primarily implemented as practical strategies to reduce harm rather than solely focus on the eradication of drug use.

Figure 4

12-Month Rolling Average of Drug-Related Overdose Death and Naloxone Distribution in Cuyahoga County, Ohio, 2017-2022[3]



Identified Cleveland Police incident data made available for analysis. Since 2020, the Cuyahoga County Prosecutors Office (CCPO) has utilized analysts to compile suspected drug overdose incident reports from the Cleveland Division of Police (CDP) records management system (RMS). These data have been the primary source of information used by MetroHealth's Quick Response Team (QRT). Although it is

[3] Drug-Related Deaths: CCMEO; Project DAWN Monthly Distribution Log Data (https://data.ohio.gov/wps/portal/gov/data/view/project-dawn-monthly-distribution-log-data). Analysis by Begun Center, CWRU.

likely that CDP does not respond to all suspected overdoses in Cleveland, these data represent a large sample of overdoses.

> *I think what would be surprising to a lot of people is that where people live and where people overdose are very, very different. And I spend a lot of time [in] the far east side of the county in East Cleveland and those areas where people live, who come to our zip codes right around the hospital to most likely purchase drugs and overdose there at the time, but they live a lot farther out. And so just in terms of thinking about outreach and harm reduction and the benefit of having Eastside location or outreach, but really there are a lot of people that do not live in the zip codes where we see those high overdoses. They really are more spread out than I think people would imagine.* - CCOD2A Focus Group Participant

Incorporating PDMP location data. Publicly available prescription drug monitoring program (PDMP) data has been utilized for surveillance since the beginning of the CCOD2A grant; this indicator is published on the Cuyahoga County Overdose Data Dashboard. PDMP data are accessed by the CCBH informatics team whose technical expertise allows them to extract the data from the Ohio Board of Pharmacy Ohio Automated Rx Reporting System (OARRS) interactive data tool.

Link and Overlay Overdose Data from Different Sources to Enhance Overdose Surveillance

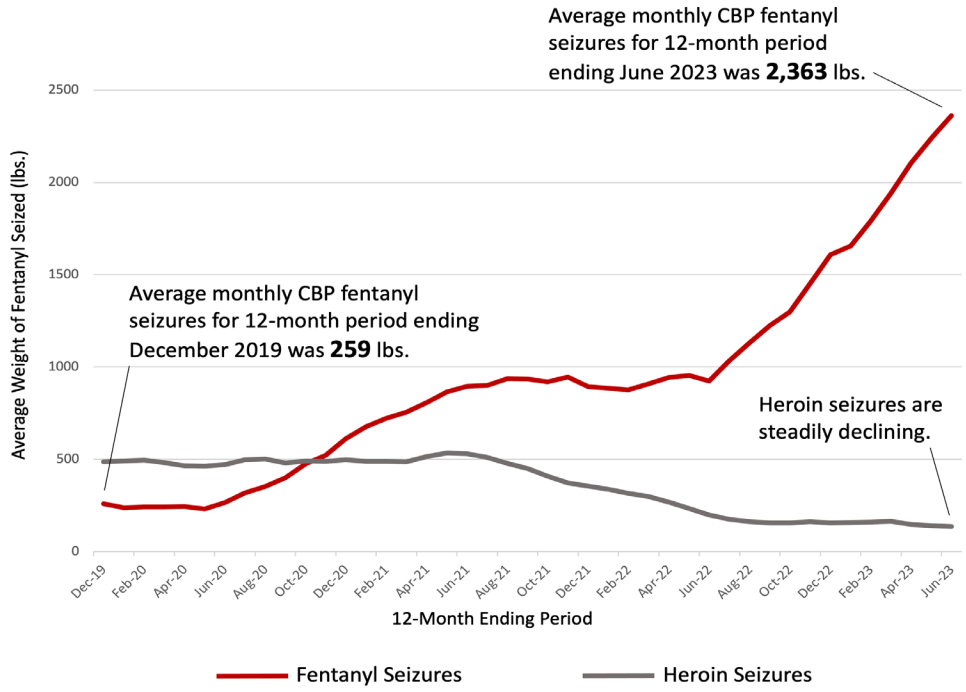
Analyzing drug seizure data from law enforcement sources served as a valuable tool for tracking drug trends. The CCOD2A surveillance team consistently monitored this information at local, regional, and national levels. They created and maintained a national and local-level dashboard displaying these data (see the Drug Seizure Data dashboard). A particularly relevant and timely national-level drug seizure data point comes from the U.S. Customs and Border Protection (CBP), which is publicly available with minimal lag time. These data provide some insight into the national trajectory of the opioid crisis; monitoring trends helps us understand drug demand and drug use. The amounts of drugs seized and reported can fluctuate radically from month to month. To smooth out monthly fluctuations, a 12-month average of the amount of fentanyl and heroin seized was calculated which provided a clearer view of the overarching trend. As illustrated in Figure 5, the 12-month average weight of fentanyl seized by the CBP at all U.S. ports of entry stood at 259 pounds in December 2019. By June 2023, the average amount of fentanyl seized had increased to 2,363 pounds—an increase of 812% (Figure 5).[4] National-level data were similar to trends in Ohio, at both the state and local level. The most recent Ohio Substance Abuse Monitoring (OSAM) Network drug trends report also emphasized the problems arising from recent fentanyl trends:

[4] U.S. Customs and Border Protection Drug Seizure Statistics (https://www.cbp.gov/newsroom/stats/drug-seizure-statistics). Please be aware that these data do not include information on drug purity or the specific form (e.g., powder, pills) of the seized substances. As such, the trends presented here are based solely on weight and may not fully represent the nature or composition of the confiscated drugs.

- Fentanyl is a primary drug of choice and easily accessible;
- Fentanyl's appeal includes its low cost and high potency compared to other street drugs;
- Supply & demand for fentanyl is high or increased in past six months (Jul-Dec 2022 report);
- Dealers mix fentanyl with other illicit drugs to grow their customer base and ensure repeat business;
- Increase in fentanyl-pressed pills reported in the last six months (Jul-Dec 2022 report); and
- Ohio forensics labs find fentanyl in complex mixtures with other substances like para-fluorofentanyl, PCP analogues, and nitazene compounds.

Figure 5

12-Month-ending Fentanyl Seizures (by weight / lbs.) by U.S. Customs and Border Protection (all locations) from December 2019 to June 2023[a]



[a]U.S. Customs and Border Protection Drug Seizure Statistics data, analysis by Begun Center, CWRU

CCOD2A staff and partners acknowledge that additional data is needed to better understand what types of drugs individuals intend to take and what drugs are taken unintentionally.

> *One thing that is really hard for me and I feel like some for other people on some of our teams to grasp is the whole toxicology surveillance piece, so not understanding possibly like what somebody may have been intending to use versus like what is showing up in the toxicology and how that all fits together. And I think there's still a lot to learn about substance use in itself and people's intentions versus not ...what people may be looking for because they know this whole thing with*

> *like Bad Batch alerts...We've talked to other people that like everything is a bad batch. So, if you put out these bad batch alerts, then you're kind of giving this false sense of security that when there's not an alert that the drug supply may be safer when it's not. So, everything [is] just kind of very complex.* - CCOD2A Focus Group Participant

Incorporating drug testing data. The CCOD2A gained access to new data sources to improve our understanding of the opioid epidemic in Cuyahoga County. Millennium Health is a nation-wide specialty laboratory that performs comprehensive drug testing for various health care providers. Millennium Health agreed to provide drug testing results for Cuyahoga County patients. These data help inform several important areas, including (a) drug use trends, (b) assessing what prescription drugs are potentially being diverted for illicit use, and (c) identifying emerging trends related to the introduction/re-introduction of dangerous drugs in the supply (e.g., carfentanil). Work occurred in Year Four to incorporate Millennium Health data into the Cuyahoga County Overdose Data Dashboard in the near future.

Incorporating Improved Toxicology Reports. The CCMEO continued to improve their data systems containing drug-related mortality data through expanded coding of toxicology reports that have been underway for several years. Forensic epidemiologists utilized toxicology reports of decedents whose deaths were caused by various drugs, and developed a comprehensive dataset that was made available to the surveillance team. This information can improve intervention opportunities (e.g., education, outreach, harm reduction) by understanding what specific drugs have historically had the most impact in a given neighborhood or ZIP code. These data were made available to the public through the data dashboard in Year Four.

Communication Framework and Data Sharing with Local, State and Federal Stakeholders

The Cuyahoga County Board of Health's Overdose Data Dashboard provides quarterly updates on drug overdose data, including overdose deaths, opioid prescriptions, emergency room visits, and naloxone use. The information is sourced from multiple agencies, including the Cuyahoga County Medical Examiner's Office and the Ohio Board of Pharmacy. Target audiences for these data include the general public, local task forces, healthcare organizations, and first responders via the CCBH webpage. Feedback on the website was collected through stakeholder meetings and an online survey to ensure continuous quality improvement. The dashboard serves as a centralized resource for tracking and addressing drug-related issues in Cuyahoga County.

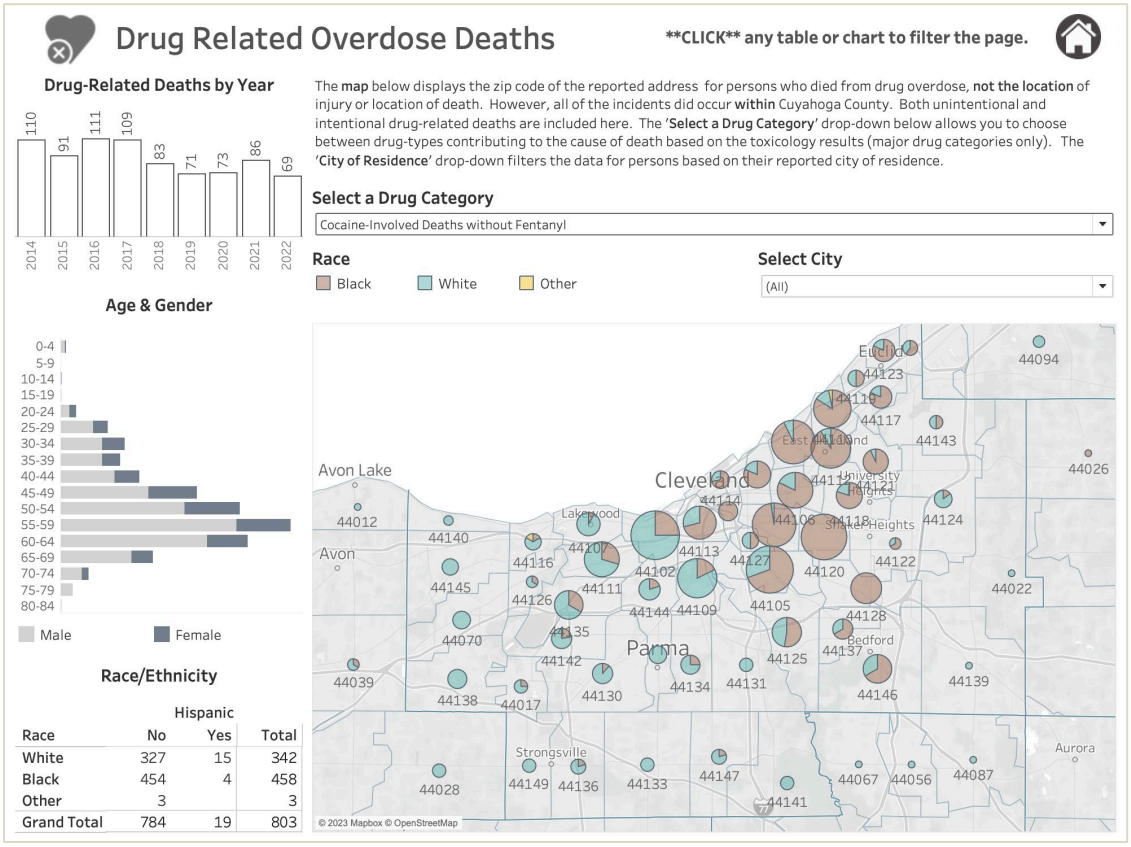
> *It's helpful for people [with] boots on the ground to know some of the alerts and what's happening so that helps them get into the communities and help spread the word to reduce the number of overdoses.* - CCOD2A Focus Group Participant

In Year Four, the surveillance team rolled out an enhanced version of the drug-related death page of the Data Dashboard. The revamped page allows viewers to explore fifteen critical categories of cause-of-death

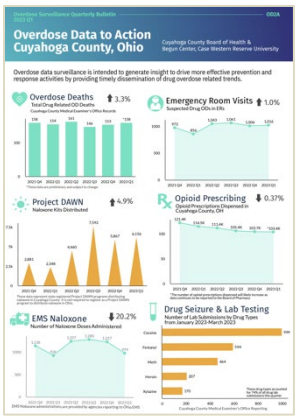
drugs or drug combinations that are either highly prevalent or currently trending and identify demographic and geographic differences. For instance, one filter available on the dashboard is "cocaine-involved deaths without fentanyl," as illustrated in Figure 6.

Figure 6

The Cuyahoga County Data Dashboard Filtered for "Cocaine-Involved Deaths without Fentanyl" from 2014-2022



Thanks to the collaborative coding efforts by staff from the CCMEO and the Begun Center, the updated dashboard not only improves understanding of the populations and locations (ZIP codes, in this case) most affected by specific drugs, but can also drive intervention efforts.



Since the second quarter of 2020, the Cuyahoga County Board of Health has released a quarterly data bulletin as part of the CCOD2A deliverables. This informational bulletin provides a comprehensive, yet easily digestible look at drug-related indicators specific to the county. The data bulletin is sourced from several key agencies, including the Cuyahoga County Medical Examiner's Office, Ohio Department of Health's EpiCenter, MetroHealth's Office of Opioid Safety, the Ohio Board of Pharmacy's Automated Rx Reporting System, Ohio Emergency Medical Services. It includes developing issues or trends utilizing various federal agencies sources such as the DEA and the U.S. Customs and Border Protection. The bulletin offers updates on a variety of metrics including drug overdose deaths, emergency room visits for suspected drug overdoses, community naloxone kit distribution from Project DAWN, opioid prescribing patterns, EMS Naloxone administrations, and drug seizures and lab testing data. The bulletin is disseminated to a wide range of stakeholders: the Cuyahoga County Opiate and Heroin Opiate Task Force members, all CCOD2A sub-grantee partners, Local Health Department leadership, the CDC, Northeast Ohio Hospital Opioid Consortium, first responder agencies, and other community stakeholders who opt in. The public can also access the bulletin via the Cuyahoga County Board of Health's webpage (http://ccbh.net/overdose-data-dashboard). Feedback and guidance on the data were initially solicited during stakeholder meetings, and stakeholders were provided additional opportunities to contribute during monthly surveillance meetings and through direct feedback via links on the report, facilitating ongoing dialogue and improvement.

Assess and Respond to Prevention Partner Data to Action Needs

Respond to Partner Data Needs. Throughout the CCOD2A Initiative the surveillance team continued to respond to partner and stakeholder data needs.

> *We are trying to come up with a way to make sure that we're doing reviews of surveillance data with our program partners ... with the expectation that they take that information and attempt to alter their programming to better meet needs of different populations.* - CCOD2A Focus Group Participant

The following are examples of data requests and presentations made this past year.

- University Settlement and Thrive for Change requested a presentation/overview on drug overdose to complement a presentation given by the CCMEO. The focus was on Cleveland police department data and national/state trends.
- Thrive for Change requested detailed geographic information on hotspots in particular neighborhoods. A "harm reduction website" was created to provide data for planning activities.
- Cleveland City Council asked for a citywide overview of the surveillance work along with a review of the risk terrain modeling analysis.

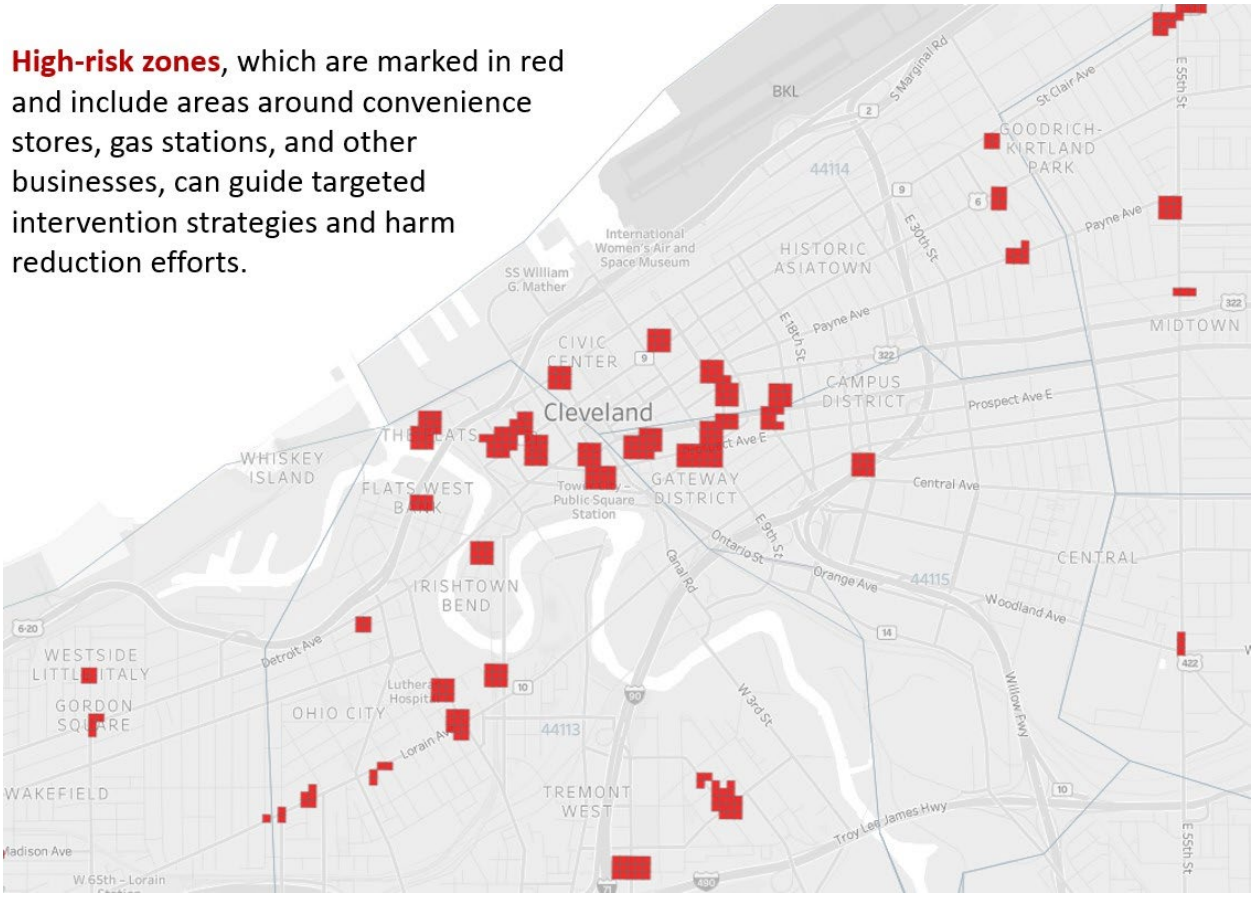
- Columbus Department of Public Health asked for information on xylazine which led to the development and release of a data brief on xylazine by the surveillance team.
- A presentation was made to One Ohio Region 3 about the CCBH dashboard to provide guidance on how OD data can be collected and used for decision-making.
- CCBH's OD alert monitoring is now coordinated with the CCMEO, numbers and demographics are shared weekly.

Providing detailed maps for harm reduction activities. The surveillance team continued to improve and update various geospatial products shared directly and only with harm reduction partners. Agencies used these maps to (a) plan upcoming outreach events and (b) distribute naloxone and fentanyl test strips. The maps identified high-burden areas (based on fatal and nonfatal overdoses) and included demographic data based on American Community Survey estimates. Demographic information was specifically requested to help partner agencies identify areas where they should be prepared to provide materials in Spanish. In one case, geospatial analysis performed by the surveillance team was used by Thrive Peer Support to draft a recommendation to the Cuyahoga Metropolitan Housing Authority (CMHA) to allow naloxone distribution on CMHA properties; these activities were previously unauthorized. The analysis revealed that several CMHA properties experienced relatively high numbers of suspected overdoses and provided the data needed to drive policy change.

The following map (Figure 7) was also developed using risk terrain modeling (RTM) software and highlights priority areas in Cleveland with elevated risk of drug overdoses. These areas were identified as high risk based on historical non-fatal suspected overdose incident data. By identifying these high-risk zones, which are marked in red and include areas around convenience stores, gas stations, and other businesses, the map can be used to guide targeted intervention strategies and harm reduction efforts. This analysis served as a data-driven tool for planning and decision-making in addressing the overdose crisis.

Figure 7

Cleveland Overdose Risk Terrain Map: Identifying Priority Places for Harm Reduction Efforts



Strategy Four – Prescription Drug Monitoring

Agencies

MetroHealth Medical Center (MetroHealth)

Center for Health Affairs (CHA)

Cuyahoga County Board of Health (CCBH)

Strategy Four was prevention-focused and addressed Prescription Drug Monitoring Programs (PDMP). The targeted activities included:

- Enhance PDMP review and reporting of high-risk clients (MetroHealth);
- Enhance PDMPs through an evidence-based program peer review model to better track opioid clients and prescriptions and develop a Toolkit (MetroHealth, CHA and CCBH);
- Expand peer review model for educating high-volume prescribers (MetroHealth and CHA); and
- Expand implementation of PDMP in non-traditional healthcare settings (CCBH).

Enhance PDMP Review and Reporting of High-Risk Clients – MetroHealth

Overview. For this activity, MetroHealth enhanced its management of PDMP data for identifying high-risk prescribing activity to trigger proactive reports to providers for action. The question being evaluated was ***to what extent does an increase in the implementation and use of the PDMP in healthcare settings decrease the number of opioids dispensed.*** During the last four years, MetroHealth has achieved or come close to achieving several of its objectives aimed at improving provider prescribing habits regarding PDMP-reported data (Table 4). MetroHealth developed algorithms to identify high-volume prescribing activity and protocols to notify providers. In addition, MetroHealth developed a mechanism to monitor and inform providers of their prescribing behaviors on a monthly basis using Controlled Substance Scorecards. In the last four years, the number of co-occurring prescriptions of opioids and benzodiazepines at MetroHealth decreased by 56%. Although the number of prescriptions each year greater than 50 Morphine Milligram Equivalents (MME) did not decrease by the targeted 10%, there was a decrease of 6%. MetroHealth was not successful in increasing the use of the PDMP documented by its providers. The reason for this finding is unknown and could be influenced by several factors related to how the data was reported by providers. MetroHealth was not able to directly pull PDMP data from Ohio's system, known as Ohio's Automated Rx Reporting System (OARRS). Rather it relied upon information reported by providers in its Electronic Health Records system (EPIC). Due to potential errors in how the data was reported in EPIC, this may have contributed to the inability of MetroHealth to achieve those objectives related to increased use of the PDMP.

Table 4

Short-Term and Intermediate Outcomes for Enhancing PDMP Review and Reporting of High-Volume Prescribers from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR2 Data	YR3 Data	YR4 Data	Outcome Status
Develop algorithms to identify high-volume prescribing activity and protocols to notify providers	Data not previously collected.	**2**	In progress	In progress	Achieved	Achieved	**Achieved**
Identify enhanced prescribing metrics and controlled substances reported	Data not previously collected	**N/A**	Data not previously collected	Data not previously collected	Focus Group with MetroHealth staff	Achieved	**Provider Education Team and Controlled Substance Scorecards were identified as enhanced metrics**
Opioid prescriptions when providers checked the PDMP prior to issuing the prescription[a]	64%	**↑10%**	62%	60%	60%	Not Available	**Not achieved, 6% decrease from baseline to Year Three**
Use of PDMP by providers (pre/post)[b]	56%	**↑10%**	50%	48%	50%	Not Available	**Not achieved, 11% decrease from baseline to Year Three**
Co-occurring prescriptions of opioids and benzodiazepines	6614	**↓10%**	4033	3,055	2,915	2,900	**Achieved, 56% decrease from baseline to Year Four**
Prescriptions each year greater than 50 Morphine Milligram Equivalents (MME)	Data not previously collected	**↓10%**	N/A	16,893	17,027	15,828	**Not achieved, 6% decrease from Year Two to Year Four**

[a] In Year Three MetroHealth revised its metrics for determining whether the PDMP was checked. The change was retroactive to baseline; therefore, the numbers have been revised from previous reporting periods.
[b] *Ibid*.

Define and identify high-risk clients and high-volume providers. MetroHealth completed its development of algorithms and reportable database metrics to recognize and track high-risk patients and high-volume prescribers. To identify high-volume prescribers, MetroHealth used reports from EPIC (MetroHealth's Electronic Health Records system) and OARRS (Ohio's version of PDMP) data. Each provider was reviewed in comparison to others in the same department or specialty. This allowed MetroHealth to identify and educate outlying high-volume prescribers.

Enhanced Prescribing Metrics and Controlled Substances Reported. During a focus group with MetroHealth, staff identified ways the agency was able to enhance prescribing metrics and reports for staff, including the issuance of Controlled Substances Scorecards and creation of the Provider Education Team. Each Controlled Substance Scorecard given to providers contains information regarding the type of medication the provider prescribed, the number of pills prescribed, the number of pills prescribed per 100 encounters, percentage of OAARS checked, percentage of co-occurring opioid and benzodiazepine prescriptions and percent of prescriptions below the 80-morphine equivalent daily dose (MEDD). The provider can also compare their prescribing to their department peers (anonymous). The benefit of the Provider Education Team was described by a focus group participant:

> *So, one thing here in the Office of Opioid Safety we did was we added the PET committee, the provider education team, and that was kind of a bridge between the peer review and the academic detailer...to let us discuss those providers. We were reviewing what was going on with the academic detailing and that way we could look at them more cohesively and direct your education a little more specifically towards providers and what was going on and to share information. So, we do spend a full hour once a week at that subcommittee meeting and discussing those providers, and I think it's really given us a lot of direction.* - CCOD2A Focus Group Participant

Analysis of Medical Providers who check PDMP before prescribing. Providers are required by law to review OARRS prior to prescribing opioids (with some exceptions), which MetroHealth requires providers to report in EPIC, MetroHealth's electronic medical records system. One desired intermediate outcome for Strategy Four was to increase the number of providers utilizing OARRS prior to issuing a prescription for an opioid. MetroHealth provided data on the number of its providers who issued an opioid prescription each month and whether OARRS was checked. It is important to note that in Year Three MetroHealth revised its metrics of how a PDMP review was recorded. Previously it was limited to instances where the provider included a dot.phrase in MetroHealth's EPIC system. It was later revised to also include those instances where OARRS was accessed through EPIC. MetroHealth was able to retroactively report PDMP reviews, using these new metrics, by its providers starting with baseline causing some previously reported data for baseline, Years One and Two to change. Those changes are noted in this report. Although the objective was to increase OARRS checks, the percentage has been slowly decreasing each year, from 64% at baseline to 60% in Year Three. Unfortunately, in Year Four, it was discovered that there was a glitch in MetroHealth's system, leading to issues with PDMP data reported from EPIC. As a result, PDMP data for Year Four is not included in the report.

Although the percentage of provider OARRS checks decreased, several possible reasons could account for the decrease other than lack of checking by providers. MetroHealth's policy is more progressive than Ohio law regarding OARRS checks, and some providers may be accustomed to only completing what is required by law. It is also possible that not all OARRS checks were recorded if the provider did not make the notation in EPIC or if the notation was not noted correctly in EPIC. It was also important to note that the PDMP data provided to The Begun Center only includes provider activity and was not differentiated by

clients; therefore, the number of clients who received prescriptions was unknown during this timeframe and the same client could be reported more than once in the database. The data provided by MetroHealth also included all providers and was not broken down by department or specialty. A preliminary examination of OARRS checks by department found that many of the providers, who write the most prescriptions, were reported to check OARRS at a higher rate.

In addition to the checking of PDMP (OARRS) data, additional indicators of prescribing behaviors were tracked through the CCOD2A Initiative for MetroHealth, including the number of opioid prescriptions issued and the number of opioid pills prescribed by providers. Although MetroHealth providers have not increased their checks of the PDMP prior to issuing an opioid prescription as intended, ***the number of opioid prescriptions each year have decreased; 99,697 at baseline to 72,698 in Year Four representing an overall decrease of 27%. The number of opioid pills issued has also declined in the last several years, 5,995,899 at baseline to 3,792,673 in Year Four, a decrease of 37%.*** MetroHealth staff also noted that they expect to see additional changes in the future as providers and clients become better educated about alternatives.

> *There's a lot of education that has to be done there for people to understand why after 20 or 25 years, even their medications are now being singled out as something that maybe we shouldn't have them on. That's a hard, that's a hard explanation at times. And I think that realization that over time, those patients will likely kind of fall off and I say that kindly, but they're going to age ...out of this problem. And hopefully with those younger patients, then we continue this education to not have this problem continue. So, I think that's a big case of you know, coming through this these three years and working with providers, is realizing that there's kind of two layers to the opioid population.* - CCOD2A Focus Group Participant

Analysis of Co-occurring Prescriptions of Opioids and Benzodiazepines. Another intermediate outcome was to reduce the number of co-occurring prescriptions of opioids and benzodiazepines by 10%. MetroHealth uses an internal dashboard to identify patients using an opioid with an active benzodiazepine prescription. At baseline 6,614 co-occurring prescriptions were issued by a MetroHealth provider, an average of 551 prescriptions each month. ***In this last year the total number of prescriptions decreased to 2,915, an average of 243 per month, representing a 56% decrease in co-occurring prescriptions since baseline.***

Analysis of Prescriptions Greater than 50 MME. MetroHealth also sought to reduce the number of unique patients with prescriptions greater than 50 MME by 10%. Data for this outcome was collected initially in Year Two which served as the baseline. MetroHealth reported 16,893 unique patients having an opioid prescription totaling more than 50 MME in Year Two. In Year Four the number decreased to 15,828. Although the decrease did not meet the 10% objective, the number decreased by 6% in the last two years.

> *But when I started here three years ago ...I had plenty of charts to review...and the MMEs were very high. And I can tell you that we've made a huge impact … and the MMEs have drastically*

dropped. So, it's just really nice to see the impact. If we do look at stats, I think you'll see the prescribing is down. Definitely the MMEs are down. - CCOD2A Focus Group Participant

Enhance PDMPs through an Evidence-Based Practice (EBP) Peer Review Model to Better Track Opioid Clients and Prescriptions and Develop a Toolkit–MetroHealth, CHA and CCBH

Overview. The evaluation question associated with this activity examined ***what additional tools can be used to supplement the PDMP to enhance provider adherence to best prescribing practices.*** Several of the objectives associated with this activity were achieved by the partner agencies (Table 5). MetroHealth continues to explore ways to increase providers' use of the PDMP (OARRS), as referenced earlier in this report, by providing them with guidance and educational resource information regarding their prescribing behaviors, including the Controlled Substance Scorecards, and Stewardship Cards. The Center for Health Affairs (CHA) developed a toolkit of best practice information that has been made available to other healthcare settings in Cuyahoga County. MetroHealth has been providing technical assistance to CHA on the toolkit design to enhance utilization of OARRS data based on best practices that can be replicated in other health systems. The Toolkit and training courses are available to any healthcare employee providing guidance on opioid use disorders and information on how to evaluate and assess prescribing practices. The Toolkit also includes two separate and distinct resources to assist healthcare facilities to create their own Academic Detailing (AD) and Peer Review programs. The finalized Toolkit is posted on the CHA website www.opioidconsortium-education.org. Data reporting errors in EPIC meant that MetroHealth was unable to demonstrate an increase in the review of OARRS data by high volume prescribers. Nevertheless, MetroHealth's efforts have generated greater insight into the benefits of using the PDMP by high volume prescribers. Recording of OARRS changed throughout the years to help reduce the burden on providers and make the process as time efficient as possible. Staff noted "…*providers face time limitations in educating patients while trying to reduce their workload, all while dealing with regulations that limit data sharing among similar treatment programs.*" However, the access and support this program has provided has helped standardize measurements, develop individual performance scorecards to educate providers on their prescribing behaviors, and has the potential to offer a comprehensive overview beneficial to the health system as a whole.

Table 5

Short-Term and Intermediate Outcomes for Developing Toolkit from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Identify ways collaboration & communication among medical providers can be improved to increase use of PDMP	Data not previously collected.	**2**	N/A	Achieved	Achieved	Achieved	**Peer review, chart review and Stewardship Report Card**
Reviews of providers for high-volume prescribing[b]	Data not previously collected	**100**	62[a]	331	1,457	All providers who prescribe controlled substances	**Achieved**
Improve prescribing behaviors for high-volume prescribers	Data not previously collected	**↑10%**	Analysis not completed	89%	84%	Not Available	**Not achieved, 6% decrease reported**

[a]In the Year One report the number was reported as 59 but should have been 62.
[b]In previous years this outcome tracked narcotics report cards issued to providers. In Year Three, MetroHealth revised the reports which are now called Controlled Substance Scorecard

Collaboration and Communication Among Medical Providers to Increase Use of PDMP. MetroHealth continued to explore ways to increase providers' use of the PDMP (OARRS). Currently this includes its peer review process, chart reviews by its Provider Education Team and distributing the Controlled Substances Cards and Stewardship Cards.

Analysis of Reviews of Providers for High-volume Prescribing. During the CCOD2A Initiative, MetroHealth utilized additional measures to identify and address possible high-volume prescribing behavior. In the first year of the grant, MetroHealth created the Narcotics Report Card which summarized opiate prescribing habits of prescribers with a Drug Enforcement Administration (DEA) number. These report cards were finalized and distributed at the end of the first year of the grant until June 2022, the third year of the grant. *In June 2022, MetroHealth revised the cards, now known as Controlled Substance Scorecards*. Unlike the Narcotics Report Card, all providers, not just those with a DEA number, who prescribe any substance reported in OAARS receive a Controlled Substance Scorecard. Each Controlled Substance Scorecard contains information regarding the type of medication prescribed, the number of pills prescribed, the number of pills prescribed per 100 encounters, percentage of OAARS checked, percentage of co-occurring opioid and benzodiazepine prescriptions and percent of prescriptions below the 80 MEDD. The controlled substance scorecards provide a means for providers to examine their prescribing behavior compared to their peers. ***In Year Four, all providers who prescribed a controlled substance received a Controlled Substance Scorecard.***

We developed ...individual provider level scorecards that we push out to all the providers once a month that shows their practice compared to their peers and their department, and so it's blind to everyone but their own data. And, you know, something that I have had impress upon me is that if you really want physicians to change, you really need to show them in the context of their peers.
- CCOD2A Focus Group Participant

Analysis of High-Volume Prescribing Behavior. MetroHealth also issues Stewardship Report Cards to high-volume prescribers. This report card is given to each provider who prescribes opioids to clients with chronic pain. Information on the card includes whether they used OARRS properly, how many prescriptions for both opioids and benzodiazepines were issued, as well as a review of the number of MMEs prescribed to determine whether the physicians were high or low in their prescribing and whether they had patient agreements in place. Prescribing behavior was examined for high-volume prescribing providers who received a Stewardship Report Card utilizing OARRS data for the period of January 2021 through August 2022. The analysis could not be completed with data from Year Four as provider's checks of OARRS data prior to issuing a prescription were not available due to a glitch in MetroHealth's tracking system. Data from 47 providers were selected to compare changes in their prescribing behaviors, with those having data available six months before (pre) and six months after (post) receiving the Stewardship Report Cards.

The analysis focused on the percentage of providers who checked OARRS prior to issuing an opioid prescription. Wilcoxon Matched Pairs Signed Rank Test (Wilcoxon Signed Rank Test) was used. The median percentage of OARRS checks by providers before receiving the Stewardship Cards was 89% and 84% six months after receiving the Stewardship Cards representing a 6% decrease instead of the intended 10% increase. The test revealed no significant differences in the prescribing behaviors between pre (median=88.8, SD=30.9) and post (median=84.0, SD=29.8), n=47, Z=-0.12, p=0.90. The same reasons referenced earlier as to why an increase in PDMP checks did not occur also applies to this objective.

Expand Peer Review Model of High-Volume Prescribers to Additional Hospitals – MetroHealth and CHA

Overview. The evaluation question associated with these activities was ***to what extent is the peer review model effective in reducing high-volume prescribing behavior within the healthcare setting.*** MetroHealth assisted CHA in incorporating its peer review model practice into the Opioid Management Toolkit. In Year Two, the Toolkit was finalized and CHA posted toolkit resources to their website www.opioidconsortium-education.org. MetroHealth and CHA achieved several of the objectives associated with this activity (Table 6). MetroHealth was able to reach its targeted number of providers who were reviewed through the peer review process, and the number of hospitals downloading information on the Peer Review Model from the Toolkit also reached its target. Although data was unavailable to document whether other hospital systems or non-traditional healthcare systems adopted the Peer Review Model, CHA focused efforts on enhancing awareness of best practices associated with the model. CHA closely partnered with MetroHealth, with CHA taking the lead on raising awareness across hospital systems

throughout Cuyahoga County. These efforts included multiple forms of outreach such as online resources hosted on the CHA website as well as email engagement, conference presentations, and conducting five key informant interviews to assess the usefulness and potential implementation of the Peer Review Model.

Table 6

Short-Term and Intermediate Outcomes for Expansion of Peer Review Model to Additional Hospitals and Implementation of PDMP review in Non-Traditional Healthcare Settings from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Providers involved in the prescriber review process	Data not previously collected	**100**	0	334	208	80	**Achieved**
Hospitals downloading the best practice model	Data not previously collected	**5**	N/A	6	4	33	**Achieved**
Hospitals adopting the best practice model (peer review)	Data not previously collected	**3**	N/A	1	0	0	**Not Achieved**
Nontraditional healthcare settings adopting PDMP review	Data not previously collected	**1**	N/A	CCBH is working with CWRU School of Dentistry	0	0	**Not Achieved**

High-Volume Prescribing Behaviors. MetroHealth's Peer Review Model, a best practice model, was incorporated into the Toolkit. Prescribing review is a chart review of all providers who continue to prescribe opioids for chronic conditions exceeding 90 days. All providers at MetroHealth can be considered for prescribing review except for those providers with acute prescriptions, such as providers in an emergency department. Providers with chronic opioid prescriptions in primary care roles (e.g., Family Practice, Internal medicine, Pain & Healing, and Geriatrics) have chart reviews every 6 months. Providers in specialized departments who issue chronic opioid prescriptions have their charts reviewed biennially.

Each provider who was selected for review had 10 charts pulled for examination. Reviews of these charts included: (1) if the patient had a controlled substance use agreement (must be renewed annually), (2) if the provider used the appropriate OARRS check and verification workflow, (3) the number of co-occurring opioid/benzodiazepine prescriptions, (4) the number of MME > 50 without a naloxone prescription, and (5) if a urine drug screen was performed. If there were deficiencies, the provider was reviewed by the Provider Education Team. The top 15 providers were referred for academic detailing (AD) in addition to any other providers the team determined necessary from other referral sources. If a provider did not show

improvement in the months following AD, the provider was referred to the Controlled Substance Peer Review Committee, which met quarterly. The target was to review at least 100 providers through prescriber review. ***In the last three years, 622 providers were reviewed through this process.***

Hospitals Downloading and Adopting the Best Practice Model Including Peer Review. CHA dedicated significant time and resources during the grant period to publicize and make available a detailed Peer Review toolkit. CHA worked with MetroHealth to create resources to assist medical administrators in identifying providers with prescribing practices who would benefit from training or peer review. The peer review portion of the Toolkit was completed in Year Two and was promoted throughout Years Three and Four. During Year Four, the Toolkit and educational resources were engaged by over 400 users with 117 downloads of Toolkit materials relative to provider prescribing tools, academic detailing and peer review. ***Of the 44 downloads from the Provider Resources page, 33 downloads were of information on peer review.***

While web traffic statistics indicated wide interest in the materials, CHA noted that it was challenging to effectively measure engagement and implementation. CHA staff reported that using these traditional outreach models through web resources and training modules were not fully reaching potential audiences. Based on this assessment CHA began exploring other engagement options such as web-app based training content. Specifically, QuizTime, YouTube, and production of a documentary, *Igniting Compassion.* CHA also distributed information about the Opioid Management Toolkit at the Ohio Rural Health Association annual conference, within relevant event programs, and spoke about the Toolkit resources at MetroHealth's Changing the Tide of the Opioid Crisis conference. Beginning in November 2022, CHA also initiated outreach to CHA member hospitals, specifically targeting credentialing, quality, and Health Information Management (HIM) leadership, to promote the peer review model and request feedback on the model. Peer review outreach and feedback requests were sent to 185 CHA members in January 2023.

> *"Those traditional modules really weren't reaching the audience."*
> - CCOD2A Focus Group Participant

CHA also continued to discuss promotion of the peer review module with the NEO Hospital Opioid Consortium and held **five** key informant interviews to assess the usefulness of the Peer Review toolkit. Overall, three of the five interviewees were aware of the Peer Review toolkit and two of the four organizations currently had a program for reviewing prescribing practices, with programs having been in place for seven to ten years. Of the organizations that had not adopted a Peer Review Model, the major barriers they identified were (1) time and workforce constraints, (2) the need for a dedicated expert to adopt the model, and (3) the complexity of the model required too many resources to implement with marginal return on investment.

Non-traditional Healthcare Settings Adopting PDMP Review. CCBH sought to enhance OARRS (PDMP) data utilization in non-traditional settings such as dental, private medical, and veterinary practices. CCBH worked with CHA to try to increase PDMP efforts in non-traditional settings working with an Assistant Clinical Professor at the Case Western Reserve University School of Dentistry. Since he is in this position, he offered to introduce CHA and CCBH CCOD2A staff members to the head clinical professor at the dental school. CHA was not able to reengage with the Assistant Clinical Professor after the initial meetings. CHA, however, was able to conduct additional outreach to three local Federally Qualified Health Centers (FQHC) to provide clinical education with MetroHealth's Office of Opioid Safety.

Strategy Five – Enhancing Prevention and Response Efforts

Prevention Strategy Five focused on enhancing prevention and response efforts by identifying opportunities for linking state and local resources and entities. Activities that fall under this strategy were:

- Enhance overdose fatality review, including adding an Opioid Use Disorder Specialist (CCMEO, CCBH & ADAMHSBCC);
- Develop a Rapid Response Lay Responder Narcan® Distribution Protocol for overdose spikes (MetroHealth);
- Increase overdose response trainings and naloxone distribution (MetroHealth);
- Implement OD2A Quarterly Implementation Roundtable (CCBH) and
- Media campaigns to populations at high-risk for overdose (CCBH).

Agencies

Alcohol Drug Addictions and Mental Health Services Board of Cuyahoga County (ADAMHSBCC)

Cuyahoga County Board of Health (CCBH)

Cuyahoga County Medical Examiner's Office (CCMEO)

MetroHealth Medical Center (MetroHealth)

At the onset of the CCOD2A Initiative, the Northeast Ohio Educational Services Center and PAXIS were involved in this strategy. Unfortunately, due to COVID-19 and its impact on schools, the activities to expand the PAX evidence-based Good Behavior Game were put on hold and never resumed after the first year of the grant.

Enhance Overdose Fatality Review, Including Adding Opioid Use Disorder (OUD) Specialist – CCMEO, CCBH, ADAMHSBCC and Begun Center

Overview. During the past four years the Alcohol Drug Addiction and Mental Health Services Board of Cuyahoga County (ADAMHSBCC) and the Cuyahoga County Board of Health (CCBH) provided support and assistance to the Cuyahoga County Medical Examiner's Office (CCMEO) in its efforts to conduct and coordinate Overdose Fatality Reviews (OFRs). The evaluation question for this activity assesses ***the impact of linking datasets across platforms and agencies, and how this information enhances the OFRs.*** The CCOD2A Initiative achieved all of its objectives for this activity (Table 7). The OFR has provided an opportunity for community partners to collaboratively review individual social histories of a sample of those individuals experiencing a fatal overdose in Cuyahoga County. The number of OFRs completed and reports prepared each year exceeded the yearly target of eight to an average of 16 per year, doubling the overall target. The OFR also reached its target number of next of kin interviews completed.

> *Reaching out to people and having somebody listen to their story about their loved one. When people want to participate, it's because they want to still be doing something for their loved one even after they're gone… they can go through the five stages of grief just during the interview. They can be telling a story that's funny. They can be super sad. They can be angry, and then thoughtful and reflective. So, I think it's giving the people an opportunity for their stories to be heard, and their loved ones not to just be another statistic in terms of an overdose.* - CCOD2A Focus Group Participant

The OFR continued to provide an opportunity for community agencies to systemically review commonalities between overdose fatalities, and discuss missed touchpoints, while also affording the treatment community the opportunity to collaboratively discuss gaps in services.

> *There was a case where a person was in detox, submitted a request to their insurance to extend the stay because, as you probably know, three days of detox doesn't really cut it anymore. You need seven to 10 ... They approved the request two months after he was dead.* - CCOD2A Focus Group Participant

Systemically reviewing fatal overdoses and identifying possible missed touchpoints facilitated conversation among community agencies that otherwise likely would not have occurred. While this activity has been a success in initiating dialogue among community agencies overall, diversifying the OFR committee to be representative of those served by the community agency would be an area for improvement. Staff also noted the difficulty in moving past identifying gaps in services to actually implementing change; a barrier that has proved difficult to overcome in the past four years. For example, the OFR committee identified improving screens for fentanyl testing as an important county-wide initiative, but where and who should be responsible to start that discussion for implementation remains unresolved.

> *"The relationships you make with the people who you work with, or even outside your agency is really important to sustain your OFR."*
> *- CCOD2A Focus Group Participant*

> *We had a case where there was a decedent, who was found on scene with white powder that they determined to be cocaine, and ERs don't test for fentanyl. It's not part of their regular tox screen. So, she was not treated for an overdose because they don't test for fentanyl … and she died …*
> - CCOD2A Focus Group Participant

While the OFR will not be an activity that continues under the most recently awarded OD2A monies, the OFR has received additional funding from another grant to expand and improve the OFR, including continuing to meet with partner agencies to systemically review fatal overdoses in the community.

Table 7

Short-Term and Intermediate Outcomes for Enhancing OFRs from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Number of OFRs completed	0	**26**	14	17	18	16	**Achieved**
Number of families of decedents interviewed by OUD specialist	0	**24**	N/A	16[a]	7	4	**Achieved**
Identification of intervention points for treatment	0	**6**	7	0	0	0	**Achieved**
Increase in the number of OFR reports completed each year	0	**8/yr.**	NA	17	18	16	**Achieved**

[a]16 NOK interviews were completed in Year Two, one of the deaths was later ruled a non-opiate suicide, that interview, while included in the total, was not analyzed.

Incorporate Prescription Drug Monitoring Program (PDMP), investigative reports, autopsy and cause of death (COD) reports into OFR. During the last quarter of Year Four, the CCMEO gained access to the MetroHealth System and the Cleveland Clinic's medical records, incorporating two new large data sources in which to obtain information regarding a decedent. The data collected from agencies has grown during the initiative and the quality and quantity of a decedent's social history are richer due to agency collaborations.

> *In terms of Cuyahoga and data sharing, and MOUs, I think we're way ahead of the curve, in terms of sharing information and working together to get … information out and get any information about the decedent from the various agencies, and then we're way ahead of the curve in terms of other counties.* - CCOD2A Focus Group Participant

Despite these advances, there is still additional data that would assist the OFR in their reviews.

> *Our data is organized and we can pull out certain key characteristics of the OFR...Despite the OFR including lots of data, like more than just what would be available publicly or even just through the CCMEO's office, there are still gaps. We still don't know everything about somebody.* - CCOD2A Focus Group Participant

CCMEO staff shared that during the past year, the OFR solidified a "core member group that attends each OFR" and further added that they "feel confident about who is at the table" regarding which agencies regularly attend the OFR. Similar to previous years, the OFR invited guests from community agencies throughout the year. Project White Butterfly and Frontline Services are examples of two guest community agencies who were invited to participate and present during an OFR. In Year Three, the OFR participated

in a mentor site visit facilitated by the Institute for Intergovernmental Research (IIR). In Year Four the committee shared their knowledge and experience facilitating OFRs with King County, WA and Lucas County, OH, as a mentor. Sharing facilitators and barriers through IIR's mentorship program was another way of connecting and opening dialogue about best practices, a beneficial process facilitated by the CCOD2A Initiative.

OUD Specialist Interviews of Families of Decedents. The OUD Specialist from the ADAMHSBCC was able to conduct 27 next-of-kin (NOK) interviews, four of which occurred in the last year of the grant. Previous years of the CCOD2A Initiative were more successful in interviewing decedents' NOK, but overall, the target was met. In Year Four, the OUD Specialist approached 30 individuals, of which six consented to the interview and four interviews were conducted. Of the individuals interviewed, three were sisters of two (different) decedents and one was the spouse of the decedent. Similar to past years, interviews were completed by phone and participants received a $40.00 gift card for their time and participation.

Staff relayed making contact with NOK has been a challenge throughout the grant. "I would say this year is more of a struggle than I would say maybe the previous three years." Staff continued by saying "cases aren't selected based on the potential interviews but certain themes they are hoping to highlight…contact information usually isn't up to date." Staff also relayed frustration in the fact that sometimes it is not the NOK that is the best person to be interviewed, including an example of a decedent that had experienced abuse from a relative and that same relative was listed as the decedent's NOK.

Identification of Intervention Points for Treatment. OFR recommendations developed in Year One continued to be refined each year and clarifying language that incorporated specific activities related to the overall goals were added during Year Four. Those recommendations and activities from the past years as well as highlights that describe progress made in certain areas are summarized and a more detailed description can be found in the annual report published by the OFR available on Overdose Data Dashboard – CCBH (https://ccbh.net/overdose-data-dashboard/#data-reports).

Goal 1: Harm Reduction

Objective 1.1 Increase knowledge and awareness of harm reduction efforts
Objective 1.2 Increase availability of harm reduction tools (naloxone, fentanyl test strips, syringes, Naloxbox, etc.).
Objective.1.3 Support the Implementation of the Naloxbox program in Cuyahoga County

Highlights
In 2022, ADAMHSBCC provided community outreach and grassroots efforts to distribute 100,000 fentanyl test strips and 1,700 naloxone kits. They also worked with MetroHealth's Project DAWN program to determine and install over 100 Naloxboxes throughout various locations in Cuyahoga County, including outdoor boxes. Additionally, they purchased and installed five harm reduction vending machines, overdose buttons and sensors, 447 additional emergency access naloxone cabinets, Narcan (4 mg) and Kloxxado (8 mg) to fill the vending machines and initiated the localization of an overdose response app called Brave. The Board also ran two multi-media public awareness campaigns. One campaign targeted high risk overdose communities and zip codes and provided information about fentanyl awareness and how to access harm reduction tools.

Goal 2: Medical Prevention and Treatment

Objective 2.1 Increase the number of Medication-Assisted Treatment (MAT) providers.
Objective 2.2 Support education and training of medical providers on the illicit use of prescription medications.

Highlights:
The preliminary results of MetroHealth Academic Detailing (AD) program showed significant decreases in the number of opioid pills prescribed, the number of opioid prescriptions prescribed, and the number of benzodiazepine/opioid prescriptions prescribed. CHA provided Web-based access to a range of opioid training materials and resource guides via various outlets, including the Northeast Ohio Hospital Consortium. A presentation, referred to as "BrightTALK", was offered which covered all aspects of the AD program and the availability of training and technical assistance through CHA and MetroHealth to assist organizations in developing and implementing AD in their agencies.

Goal 3: Linkage to Care

Objective 3.1 Advocate for increased availability of peer support programs to provide outreach to high-risk populations (e.g. previous nonfatal overdose, diagnosed with SUD, or at risk for substance use disorder) by encouraging hospital EDs and specialty court dockets to adopt peer support programs.
Objective 3.2 Encourage collaboration among first responders and treatment providers to improve linkages to treatment for individuals experiencing a nonfatal overdose.
Objective 3.3 Support linkage to MAT and recovery housing/sober living appropriate to a person's needs.

Highlights:
MetroHealth's Quick Response Team (QRT) made contact with 252 individuals who experienced a nonfatal overdose or were a family member / friend of the individual who had experienced a nonfatal overdose. QRT outreach provided resources and referral information in hopes of linking people with treatment. Approximately 23% of those contacted were linked with services.

Goal 4: Education

Objective 4.1 Advocate for increased eligibility for drug court
Objective 4.2 Support the enhancement of substance use education and prevention initiatives including the progression of addiction, polysubstance use, and addressing adverse childhood experiences.
Objective 4.3 Promote appropriate and targeted communication efforts to increase public awareness regarding existing and emerging substances.
Objective 4.4 Advocate for increased support/outreach to those who are working for recovery services agencies.
Objective 4.5 **Encourage outreach to funeral directors related to death certificate data**

Highlights: In 2022, the Cuyahoga County Board of Health (CCBH) created a Harm Reduction Outreach Campaign containing two messages aimed at harm reduction and drug supply toxicity, and two messages regarding supporting recovery. A Facebook interview with the Cuyahoga County Medical Examiner, Dr. Thomas Gilson, was conducted to highlight how drug overdose deaths in the county are significantly affecting communities of color. Additionally, representatives from MetroHealth, The Centers, and CCBH collaborated to create an overview of harm reduction for communities and presented the information at a Cuyahoga County Mayors and City Managers Association meeting. Project White Butterfly provides education through outreach about the toxicity of drug supply in Cuyahoga County. They distribute postcards with information for the Never Use Alone Hotline, The SOAR Initiative deadly batch alert, and The Brave App to help people remain safe while using and stay informed about toxic drugs.

Goal 5: Building System Capacities

Objective 5.1 Enhance SUD treatment for incarcerated populations.
Objective 5.2 Promote timely communication systems to notify appropriate agencies of non-fatal overdose events
Objective 5.3 Advocate for uniform practices and policies for providing individuals upon release from incarceration at both private and public facilities with treatment resources and harm reduction materials.
Objective 5.4 Advocate for providers to use OARRS and improve system access/data available

Highlights:
The OFR coordinator extended an invitation for an OARRS representative to join the OFR and has worked in coordination with the representative to address system-level activities. Additionally, the coordinator extended an invitation for a physician to join OFR to provide insight into prescribing practices.

Goal 6: Community Outreach

Objective 6.1 Promote outreach to community agencies regarding the importance of relapse and recovery plan review, wrap-around services, and accessibility for support group meetings.
Objective 6.2 Support community outreach to vulnerable populations (including homeless populations) by providing resources and information in applicable locations.

Highlights: Project White Butterfly visits locations in the County on a monthly basis to provide naloxone, fentanyl test strips, condoms, and other resources. Additionally, an Educational Gallery Display by Project White Butterfly, made possible with funding from the ADAMHS Board of Cuyahoga County, presents statistics, science, and real-life stories to help reduce stigma and break down the barriers of shame and judgement for all people touched by substance use disorder in the community.

Goal 7: Surveillance and Dissemination

Objective 7.1 Routinely disseminate trends reviewed from the OFR along with supporting data
Objective 7.2 Engage stakeholders to review recommendation and call for action.
Objective 7.3 Explore opportunities to improve existing hospital laboratory systems to enhance surveillance

Highlights
The Cuyahoga County Overdose Fatality Review (CCOFR) coordinator hosted quarterly stakeholder meetings with additional interested partners to present relevant trends and recommendations that agencies can utilize in their respective line of work. The Overdose Data to Action (OD2A) surveillance team improved and updated various maps which were shared only with harm reduction partners to plan upcoming outreach events and distribute naloxone and fentanyl test strips. These maps identified high-burden areas (based on fatal and nonfatal overdoses and included demographic data based on American Community Survey estimates. The demographic information was specifically requested to help partner agencies identify areas where they should be prepared to provide materials in Spanish. The geospatial analysis and interactive dashboards shared by the surveillance team were used to influence policy change. Thrive Peer support approached Cleveland City Council with a request to distribute harm reduction supplies (i.e., naloxone) on Cuyahoga Metropolitan Housing Authority properties.

Rapid Response Lay Responder Narcan Distribution Protocol, Responder Training and Naloxone Distributions - MetroHealth & CCBH

Overview. MetroHealth and CCBH developed a Rapid Response Lay Responder Narcan® distribution protocol for overdose spikes, which includes identifying potential hotspots of overdose activity. This activity also sought to increase the distribution of Project DAWN (Deaths Avoided with Naloxone) kits. The evaluation question tied to this activity was ***in what ways does implementing of naloxone education and distribution programs increase participant access to naloxone.*** All objectives associated with this activity have been achieved (Table 8). MetroHealth provided overdose response training to lay responders, law enforcement (LE), and community agencies. During these trainings information on where to access Project DAWN kits was provided. The number of naloxone distributions from Project DAWN sites or locations reporting data to the CCOD2A Initiative increased by 56% since baseline.

Since July 2021, 1,645 respondents completed the survey developed by MetroHealth in collaboration with the Begun Center and 539 had prior training on naloxone and opioid overdose response. Findings indicate that prior to taking the training, respondents had a basic understanding of naloxone and opioid use, including signs and symptoms of an overdose, but not as much knowledge about appropriate responses to an opioid overdose, such as the time it takes for naloxone to wear off or the use of the recovery position in some situations. Analysis of a post-test survey revealed that for those taking the training, over 92% of all respondents reported that their knowledge increased after viewing the training video. Even though it was found that respondents who had prior naloxone training had a lower percentage of self-reported knowledge gained from the current training (~82% vs. ~97%), a substantial number of respondents self-reported new knowledge gained as a result of the MetroHealth's training video. Finally, many respondents encouraged

the training to be distributed elsewhere as they believed it provided information that was succinct and easy to follow. While this training was not without its limitations, there appears to be significant merit to it, especially in a time when opioid use is at an all-time high. The training's effectiveness in facilitating knowledge acquisition underscores its potential as a valuable tool in opioid overdose response.

Table 8

Short-Term and Intermediate Outcomes for Overdose Response Training and Naloxone Distribution from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Number of lay responders trained in overdose response	Data not previously tracked	**200**	955	3,970	2,796	1,186	**Achieved**
Number of LE trained in overdose response	0	**100**	48	26	49	5	**Achieved**
Number of community agency staff trained on overdose response	615	**600**	202	352	443	707	**Achieved**
Identify through focus groups provider barriers to distributing naloxone at discharge at ED and Inpatient Units	Data not previously tracked	**2**	N/A	0	Focus group held in YR 3	Completed	**No real barriers for naloxone at discharge. A Project Dawn Kit can be ordered to the floor.**
Knowledge gained from overdose response training (pre/post)	Data not previously tracked	**↑10%**	0	85%	93%	92%	**Achieved - increased knowledge across all 9 domains by 85% or more each year**
Naloxone distributions	3,375	**3,975**	4,804	5,761	5,098	5,363	**Achieved – an increase of 59% from baseline**

Develop Narcan® Distribution Protocol. Protocols for naloxone administration were developed prior to the start of the grant and acted as a template for naloxone distribution. The protocol included the clinical pharmacology of naloxone, indications for use, precautions, contraindications, and adverse reactions to naloxone, along with a place to record the training, dates, and frequency of reviews.

Identify Hotspots for Naloxone Distribution by Zip Code. As part of Surveillance Strategy Three, CCBH and the Begun Center analyzed zip code level data from the following sources: (1) overdose fatalities recorded by CCMEO, (2) EpiCenter (syndromic surveillance), (3) EMS naloxone administration (number of doses), and (4) a sample of calls for service for “sudden illness” by the Cleveland Division of Police (CDP)

and overdose calls for service by Cleveland Emergency Medical Services (CEMS). The outcome provided a ranked zip code list to identify locations which would benefit from an increased distribution of naloxone.

Overdose Response Training. Overdose response trainings were tracked based on the entity receiving the training (e.g., LE, lay responder, service entity).

Number of lay responders trained on overdose response. Lay responder training provided free education on opioid overdose risks, how to recognize the signs and symptoms of an opioid overdose, how to respond to an opioid overdose and use of naloxone. Training was provided at a number of locations in Cuyahoga County. The objective was to provide training to 200 lay responders. ***Over the last four years, 8,907 lay responders were trained.*** MetroHealth greatly exceeded its objective. Individuals who have already been trained can also visit these locations to receive additional Project DAWN kits.

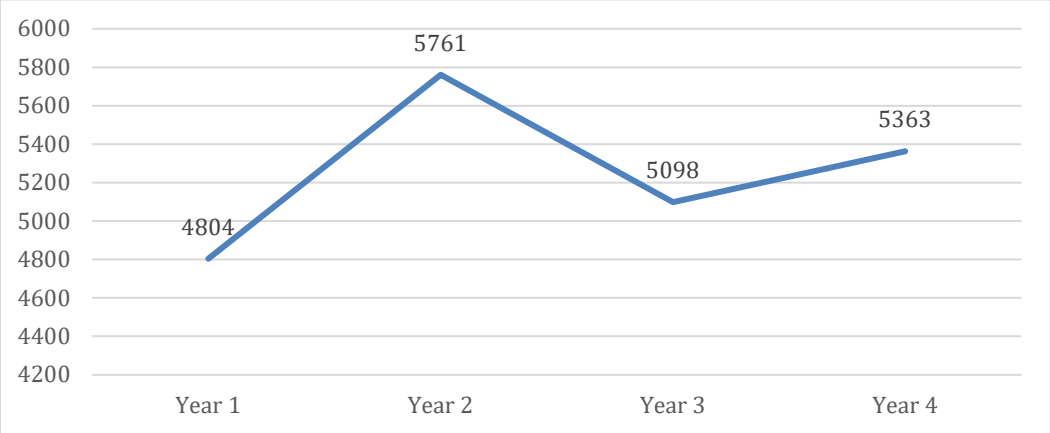
Number of Law Enforcement (LE) trained on overdose response. MetroHealth was projected to train 100 LE personnel through this grant. **At the end of Year Four**, a total of 128 LE personnel were trained, more than surpassing the objective.

Number of community agency staff trained on overdose response. MetroHealth also was projected to train 600 service entity personnel during the project. At the end of Year Four, 185 service entities received training with a total of 1,507 service entity staff trained.

Naloxone Distribution. Through the OD2A Initiative, MetroHealth worked to increase the distribution of naloxone. Project DAWN kits are provided at a number of locations in Cuyahoga County, including Cleveland Emergency Medical Services (CEMS), Cuyahoga County Corrections Center, HUMADAOP (with The Centers' Syringe Services Program), The Centers, CCBH clinics, Cleveland Department of Public Health's Thomas McCafferty Health Center, and Project DAWN Expanded Mobile Unit. Figure 8 shows the total number of Project DAWN kits distributed across the four-year grant cycle.

Figure 8

Project DAWN Kits Distributed through MetroHealth *by Year (n=21,026) from September 2019 to August 2023*



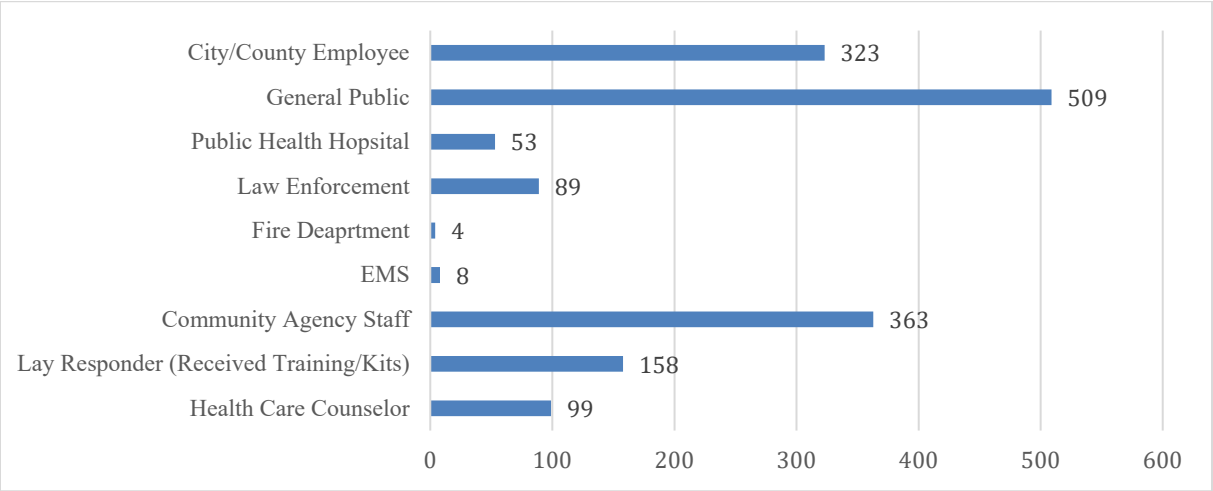
Increase knowledge gained from overdose response training. In July 2021, MetroHealth began using a survey tool developed by the Begun Center to capture knowledge gained from the naloxone training delivered by MetroHealth. The training video was directed primarily to service entity and agency personnel, although others could complete the training. The assessment included pre and posttest questionnaires. The pretest questionnaire examined whether participants had ever administered Narcan to a specific group (e.g., friend, family, as part of job, or gave to someone else to administer) followed by nine questions that assessed participants' familiarity with opioid overdoses, along with its relevant contexts. Following this survey, participants watched an informative video presentation detailing naloxone and its applications. After viewing the video, participants were then asked to complete a posttest survey inquiring about their perception of knowledge enhancement on each of the nine items, i.e., whether they believed their knowledge regarding overdose and administration of Narcan improved or remained unchanged.

Description of Respondents and Initial Level of Knowledge. Over the course of the CCOD2A Initiative, there were 1,680 individuals who participated in MetroHealth's naloxone training program. Of the 1,680 respondents, 1,645 had usable data[5]. Figure 9 shows the distribution of the respondents and their current or potential role in administering naloxone.

[5] There were three respondents who took the pretest survey after watching the video and for 32 respondents there was no survey data, indicating that the respondents opened the survey but did not complete any of the questions. The data from these 35 surveys were not included in the analyses.

Figure 9

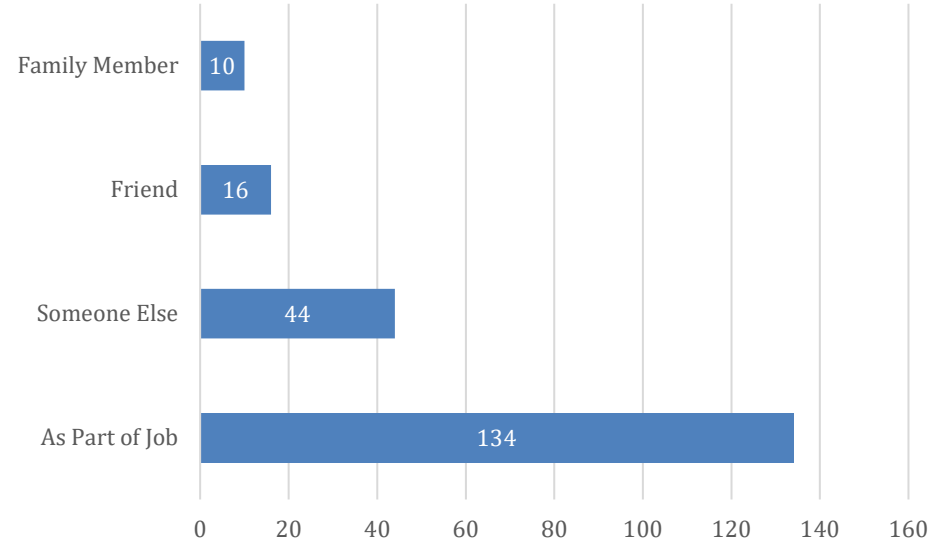
MetroHealth Naloxone Survey – Role of Responder (n=1,645) from July 2021 to August 2023



The first set of questions from the pretest asked respondents if they ever administered naloxone, and if so, to whom. The majority of the respondents had never administered naloxone (n=1,415). Figure 10 shows the distribution of replies for those respondents who had administered naloxone (n=240). Respondents could check more than one option.

Figure 10

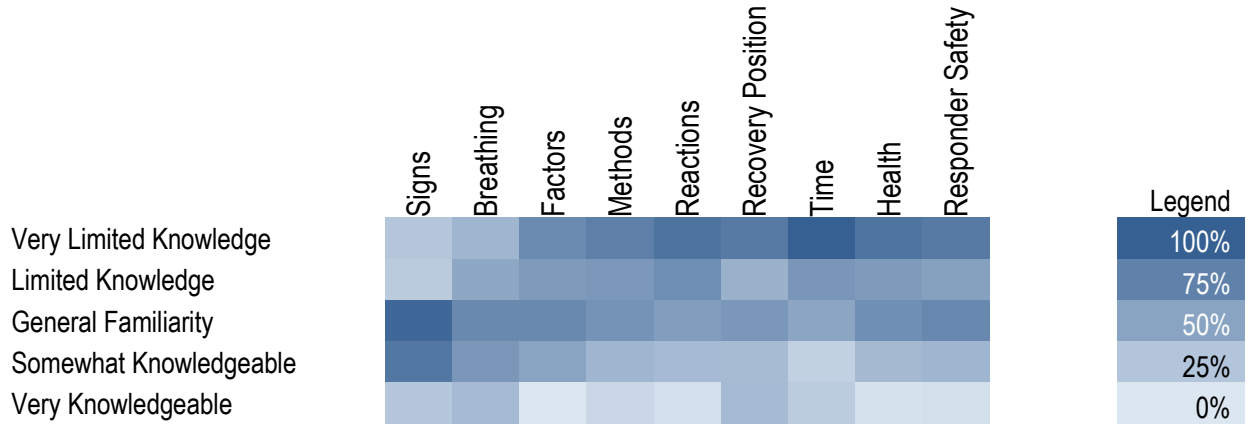
Individual Receiving the Naloxone Administration from July 2021 to August 2023



The next set of questions asked respondents to assess their level of knowledge across nine topics that are covered during the training including: signs and symptoms of an opioid overdose, factors to consider prior to administration, different methods to administer naloxone, role/use of rescue breathing when responding to a suspected opioid overdose, potential reactions to naloxone, use of recovery position, amount of time naloxone is effective, physical health issues that could impact a victim and responder safety protocols. Respondents were asked to rate their knowledge on a 5-point Likert scale ranging from "very knowledgeable" to "very limited knowledge". Results from the nine questions are presented in Figure 11. The color scale legend on the left illustrates that darker shades of blue correspond to higher frequencies, while lighter shades indicate lower frequencies. Prior to taking the training many respondents indicated they were "generally familiar" to "very knowledgeable" about the signs of an overdose and the role and usage of rescue breathing when responding to an overdose. However, respondents were less familiar ("limited" to "very limited" knowledge) with the remaining questions regarding opioid overdose response.

Figure 11

MetroHealth Naloxone Pretest Knowledge (n=1,645) from July 2021 to August 2023



Knowledge Gained Post Video. The posttest survey examined whether the Respondents' level of knowledge on naloxone and opioid overdose response increased or remained unchanged after watching the training video. As shown in Table 9, most respondents indicated their level of knowledge increased after watching the training video. For seven of the nine questions, greater than 90% of the respondents indicated their knowledge increased after watching the video. Averaging the percentages across all nine questions, 91% of respondents increased their overall knowledge.

Table 9

MetroHealth Naloxone Post-Training Knowledge (n=1,645) from July 2021 to August 2023

	Signs	Breathing	Factors	Methods	Reactions	Recovery Position	Time	Health	Responder Safety
No Change	8.3%	8.3%	8.2%	7.7%	9.0%	9.4%	7.6%	9.3%	9.1%
Increased	91.7%	88.8%	88.6%	92.3%	91.0%	90.6%	92.4%	90.7%	90.9%

For the posttest, fewer than 10% of respondents reported that their knowledge remained unchanged. The possibility exists, however, that these individuals might have had prior training on the use of naloxone and how to respond to an opioid overdose. Table 10 presents the results of the posttest responses for those individuals who had prior training compared to those who did not have prior training. As depicted, the percentage of respondents who indicated no knowledge change was greater for those who had prior training compared to those who did not.

Table 10

MetroHealth Naloxone Post Training Results Broken Down by Prior Training (n=1,465) from July 2021 to August 2023

	Signs	Breathing	Factors	Methods	Reactions	Recovery Position	Time	Health	Responder Safety
No Change / Prior Training	21.1%	13.8%	19.3%	16.5%	21.3%	20.2%	15.0%	17.8%	17.4%
Increased / Prior Training	78.9%	86.2%	80.7%	83.5%	78.7%	79.8%	85.0%	82.2%	82.6%
No Change / No Prior Training	3.7%	1.9%	1.9%	5.7%	1.9%	3.8%	3.8%	7.5%	1.9%
Increased / No Prior Training	96.3%	98.1%	98.1%	94.3%	98.1%	96.2%	96.2%	92.5%	98.1%

A chi-square analysis was performed to determine if the differences that were observed between level of knowledge for those with and without prior training were real differences or if they occurred by chance alone; a p-value of less than .05 would indicate a significant finding. As shown in Table 11, associations

between knowledge level and training were significant for each of the posttest questions. Although there were observed significant differences in knowledge gained between those who had prior training compared to those who did not, it is important to note that approximately 82% of respondents who had prior training still indicated that the training video increased their knowledge on the use of naloxone and the signs, symptoms, and circumstances surrounding opioid use and addiction.

Table 11

Chi-square Analysis of Observed Differences in Knowledge Gained from July 2021 to August 2023

Knowledge Level Significance (p values)[a]									
Signs									
		Breathing	Factors	Methods	Reactions	Positioning	Time	Health	Safety
Training	***0.001***	***0.001***	***0.001***	***0.001***	***0.001***	***0.001***	***0.001***	***0.001***	***0.001***

[a]A p value of <.01 is significant.

Once respondents completed the post-video questionnaire, they were given the opportunity to provide feedback on the training. Figure 12 represents a word cloud of respondents' comments about the training. Many believed the training provided significant information on opioid overdose response and the role naloxone plays. Respondents also believed the training was straight-to-the-point for which they were thankful. Some respondents also suggested this training or something similar should be provided for CPR and First Aid training.

Figure 12

Word Cloud

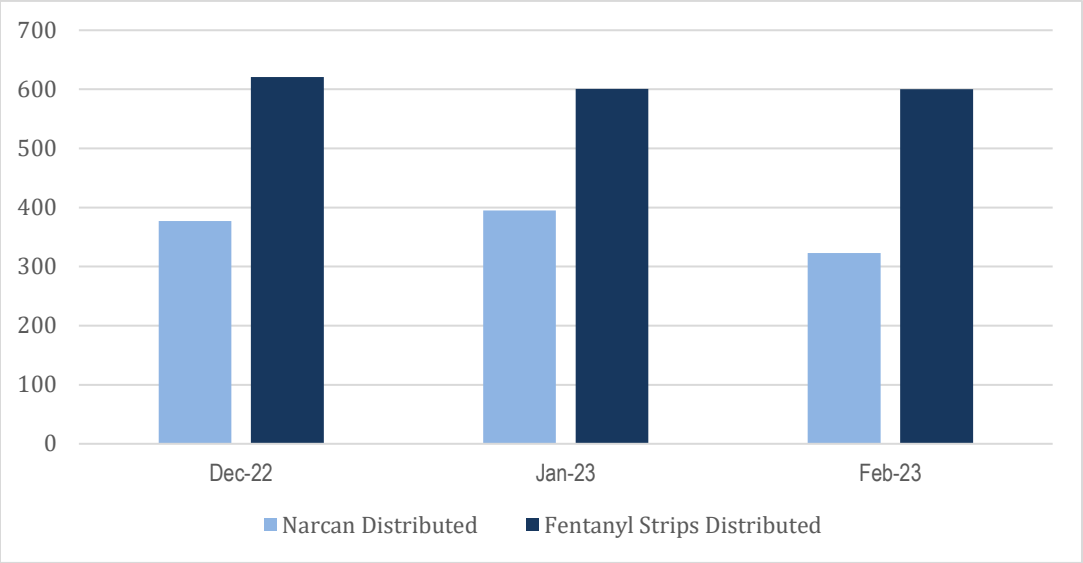
Limitations. The evaluation of the naloxone training video demonstrated the usefulness of this type of training in educating individuals on the use of naloxone and how to assist someone in an opioid overdose response. It is, however, not without its limitations. First, due to the anonymity of the survey, a direct comparison of pre- and post-responses for individuals was not available. The evaluation shows that knowledge was increased but to what extent is unknown. Second, there exists the possibility that a person opened the training video, did not watch it, but still completed the posttest survey. Third, the date on which the person watched the video and when they reported completing the survey did not always align. Finally, as with any self-reported questionnaire there could be bias in answers regarding the level of knowledge gained. Due to these factors, the generalizability of this survey is limited.

Increase Naloxone Distribution and Harm Reduction Efforts- Thrive4Change

During Year Four, Thrive For Change a small non-profit organization in Cuyahoga County received grant funds during the second quarter to distribute Narcan, fentanyl strips and provide outreach services geared towards increasing harm reduction efforts. During these three months, the organization served a total of 598 individuals, the majority of whom were White females. Figure 12 depicts the number of Narcan® kits and fentanyl testing strips distributed.

Figure 12

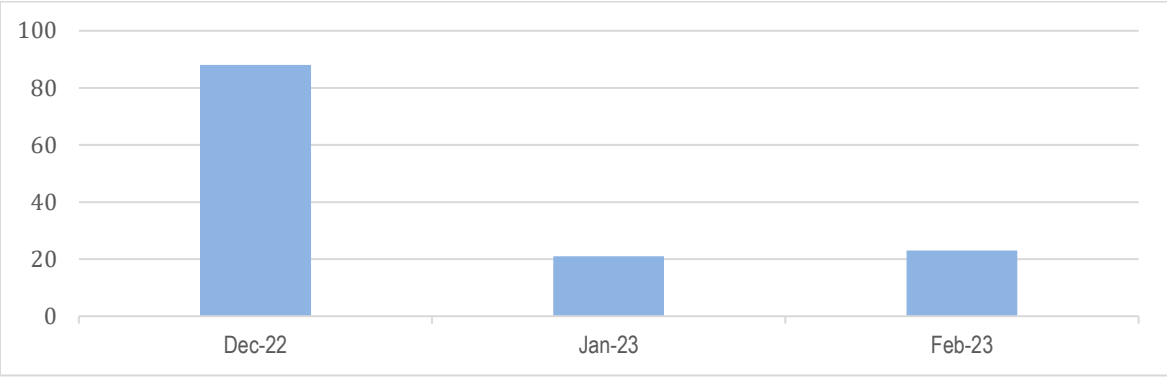
Thrive For Change Harm Reduction Distribution from December 2022 to February 2023



Thrive4Change also provided two virtual trainings per month to promote knowledge on harm reduction and education on Narcan® administration. Additionally, they spread awareness at different social service agencies including the West Side Catholic Center, Southeast Cleveland Resource Center, 2100 Men's Shelter, Nora Expungement Clinic, three or four times monthly during the period they received funding from the CCOD2A Initiative. Lastly, staff provided a unique outreach service where individuals could request Narcan and fentanyl strips through the mail. During the month of December, staff reported the largest number of mail-order requests (Figure 13).

Figure 13

Thrive4Change Mail-Order Requests from December 2022 to February 2023



Implement OD2A Quarterly Implementation Roundtable – CCBH

Overview. As part of Ohio's OD2A Initiative, the Quarterly Implementation Roundtable (QIR) was created to connect opioid epidemic leadership at the state and county level. CCBH, the Ohio Department of Health (ODH) and the boards of public health of Franklin (Columbus) and Hamilton (Cincinnati) counties were included within the QIR. Its purpose was to focus on critical issues impacting surveillance, prevention and evaluation at the state and local levels, including prevention efficacy, barrier analysis, best practice dissemination, surveillance coordination (common data dashboards) and data sharing that could enhance statewide and regional activities. The evaluation question examined ***how Ohio can improve upon state and local efforts to impact surveillance, prevention, and evaluation of opioid prescribing, morbidity and mortality***.

The COVID epidemic significantly impacted the CCOD2A Initiative during the first three years. During this time, attendance at the quarterly meetings was sporadic due to the limited availability of staff from the public health departments and the virtual format of meetings. Towards the end of the third year, the format of the QIR was re-structured to include subcommittees in addition to the full QIR committee. Subcommittees included Prevention, Evaluation, Grants/Administration and Surveillance. Through these committees, Ohio OD2A grant recipients were able to share their knowledge and experience regarding opioid related morbidity and mortality data. Participants were also able to identify barriers that impacted the counties' ability to fully understand the extent of the opioid epidemic and the difficulties in collecting and sharing data across agencies and platforms.

Discussion during the meetings focused on topics of interest identified by the committees. Topics of interest discussed at the QIR Full Committee meetings included how to best utilize and communicate findings between the state and counties (e.g., surveillance data and overdose fatality review training) and cross-cutting efforts across the Surveillance and Prevention subcommittees. The Prevention Subcommittee shared their experiences with prevention programming and shared materials and resources. Evaluators from CWRU and OU had been meeting in an ad hoc manner for the past several years and the recent expansion of the Evaluation Subcommittee membership allowed for the addition of county board of health representatives interested in evaluation. Discussion of similar activities evaluated by the county agencies included the QRT, Peer Recovery Support Specialists, Syringe Exchange Services, and Overdose Fatality Review, as well as ways to combine evaluation and surveillance data to identify overlapping points of interest. Topics of interest for the Grants/Administration subcommittee focused on the new OD2A funding opportunity and funding of peer recovery specialists outside of grant dollars. The Surveillance Subcommittee examined OD2A Dashboards, data access and sharing, and alert protocols and procedures. Whenever possible, presentations were scheduled during the committee meetings that coincided with these topics of interest. During the last year of the CCOD2A Initiative the full QIR and subcommittees met several times.

The final QIR full committee meeting was held in person in Columbus, Ohio. The featured speaker, Dr. Ayaz Hyder from the OSU College of Public Health, presented on the use of EMS data in FOCAL Map. Each subcommittee also had presenters. The Surveillance subcommittee presented on surveillance strategies, risk terrain modeling, probabilistic matching and monitoring forensic lab testing. The Prevention subcommittee presented on statewide OD2A prevention strategies and success stories from Franklin County Public Health. Grants and Administration subcommittee discussed the new OD2A Notice of Funding Opportunity and the Evaluation subcommittee presented findings from peer recovery programs and QRTs from Franklin and Cuyahoga Counties, as well as a county-wide Recovery Friendly Workplace initiative in Franklin County. Although the last QIR committee occurred in April 2023, there was a consensus of the agencies to continue the QIR for those agencies and counties funded through the new CDC OD2A grant program.

A majority of the objectives associated with this activity were achieved (Table 12). Due to the low response rate of survey participants and the new direction of the QIR focusing on presentations and discussions of mutual topics of interest, continued measurement of the collective impact of the QIR was not continued in Year Four. Nevertheless, the new direction of the QIR in Year Four, which focused on improving the exchange of information on overdose data, helped the CCOD2A Initiative reach its objectives of increased collaboration and integration among OD2A grant recipients and the identification of best practices and relevant databases and dashboards.

Table 12

Short-Term and Intermediate Outcomes for OD2A QIR from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Collective impact of OD2A QIR participants	Data not previously collected	**10%↑**	N/A	Shared vision M=3.5 Shared measurement systems M=3.3 Mutually reinforcing activities M=4.1 Trust among collaborators M=3.8	Shared vision M=3.8 Shared measurement systems M=3.4 Mutually reinforcing activities M=3.8 Trust among collaborators M=3.7	Not collected	**Varied**
Identification of barriers to sharing and integration of state and local surveillance data	Data not previously collected	**N/A**	N/A	Identified	Timely data for OD deaths, staffing, time necessary to facilitate new partnerships, and inability to obtain data from the state.	No new barriers identified	**Achieved**
Training and technical assistance provided to Partner agencies to assist them in their efforts to address the opioid epidemic.	Data not previously collected	**10%↑**	41	126	159	106	**Achieved**
Involvement in state and local prevention efforts through OD2A Roundtable meetings	Data not previously collected	**10**	1	2	7	12	**Achieved**
Preparedness and response at the state and county level, as measured by reports from the data surveillance dashboard	Data not previously collected	**4/year**	N/A	6	12	8	**Achieved**
Common data dashboards identified by the OD2A roundtable	Data not previously collected	**4**	N/A	0	4	1	**Achieved**

Collective Impact of the QIR. Evaluators from the Begun Center attempted to measure the perceived collective impact of the QIR initiative by distributing an online survey to QIR members across the state during the second and third year of the grant. The survey was adapted from Collective Impact for Public Health Practice, Global Health and Education Projects Inc. (2018). One objective was to improve county capacity for sustainable surveillance and prevention efforts, as measured by statewide coordination and data sharing efforts of the OD2A QIR. Collective impact was measured through four different domains: shared vision for change, shared measurement systems, mutually reinforcing activities and trust among collaborators. Baseline data was collected in 2021. Table 13 summarizes the results for the two years. Continued measurement of collective impact of the QIR was not continued in Year Four due to the low response rate of survey participants and the new direction of the QIR to focus on presentations and discussions of mutual topics of interest rather than examining the collective impact of the members to address system change.

Table 13

Collective Impact of the OD2A QIR Comparison from 2021 to 2022

	Baseline 2021 (Mean Score)	2022 (Mean Score)	Percent Change
Shared vision for change	3.5	3.8	8%↑
Shared measurement systems	3.3	3.4	3%↑
Mutually reinforcing activities	4.1	3.8	7%↓
Trust among collaborators	3.8	3.7	3%↓

Table 14 summarizes responses from members regarding sharing, access to, and integration of state and local surveillance data. Specific barriers named by respondents were a lack of timely data for unintentional overdose deaths in 2019 and 2020, stretched capacity/hiring delays/staff transitions, a longer than anticipated timeline to facilitate new partnerships, and inability to obtain data from the state due to access barriers, unclear processes, and capacity/time limitations.

Table 14

Barriers to Sharing and Integration of State and Local Surveillance Data from 2021 to 2022

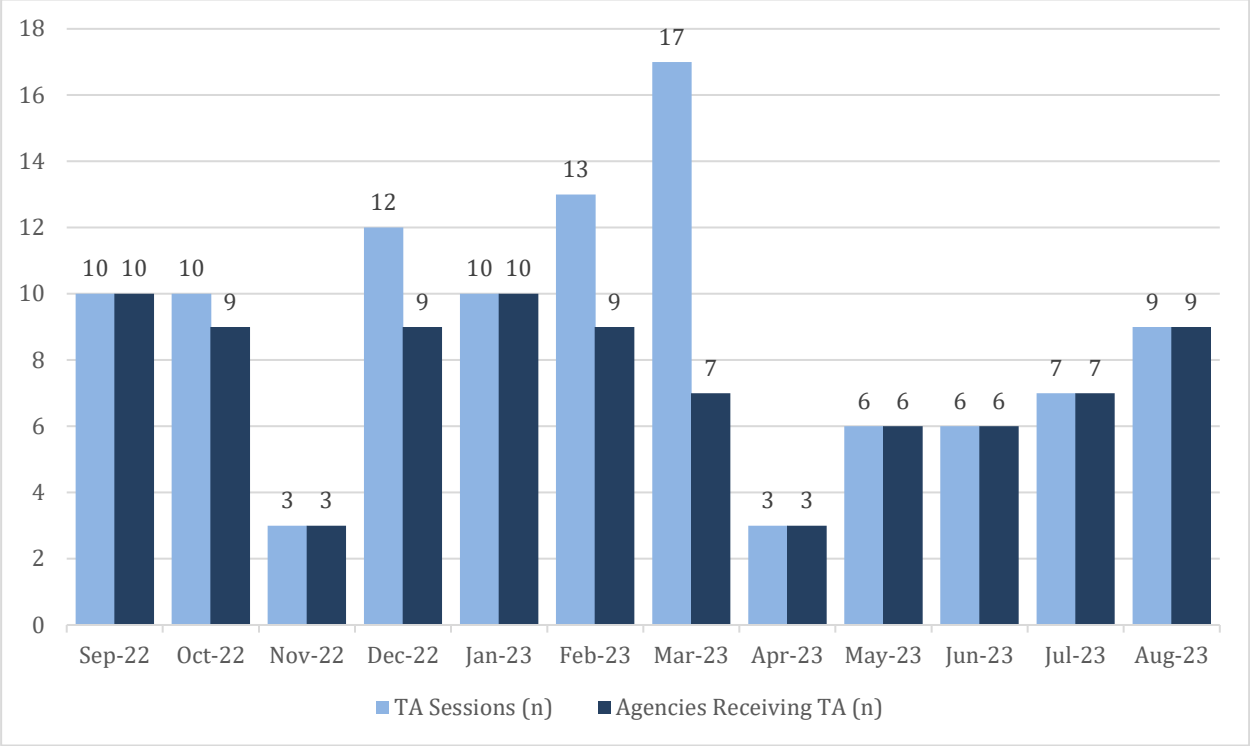
In the previous year of the OD2A project, did your agency experience barriers to…	Yes		No		N/A	
	Yr1	Yr2	Yr1	Yr2	Yr1	Yr2
sharing state surveillance data?	0%	33%	33%	17%	67%	50%
accessing state surveillance data?	33%	--	33%	--	33%	--
integrating state surveillance data?	17%	33%	17%	33%	50%	33%
sharing of local surveillance data?	33%	50%	33%	17%	33%	33%
accessing local surveillance data?	17%	83%	50%	17%	33%	0%
integrating local surveillance data?	17%	67%	50%	33%	33%	0%

Eighty-three percent (n=5) of the respondents believed the OD2A Initiative has led to the identification and use of data dashboards, and the same number indicated that the Initiative led to the development of data dashboards, including their own agency creating a dashboard. Several common data dashboards were identified across agencies in 2022 relate to ER data, 911 dispatch data, drug seizure data and morbidity/mortality data. In 2023, a statewide dashboard was made available on Integrated Behavioral Health (State of Ohio Integrated Behavioral Health Dashboard | DataOhio).

Increase training and technical assistance provided to partner agencies to assist them in their efforts to address the opioid epidemic. In Year Four the CCBH reported 106 training and technical assistance (TA) sessions provided to partner agencies (Figure 15), a decrease from the 159 sessions held in Year Three; however similar to the average numbers of TA sessions throughout the four years (n=108). Topics covered in TA included: ensuring that data disseminated was presented accurately, the development of supplemental surveys, coordination of collaboration between agencies, particulars of media campaign, budget revisions and work plans.

Figure 14

CCBH-Provided Technical Assistance by Month from September 2022 to August 2023



Media Campaigns to Populations at High-risk for Overdose – CCBH

Overview. Over the course of the four years, CCBH worked to develop media campaigns targeting populations at high risk for overdose. The focus of the media campaigns were to help facilitate linking clients to clinics, gain community feedback and support, and decrease the number of fatal overdoses in Cuyahoga County (Table 15). Increasing media awareness regarding overdoses has been a focus of this grant. CCBH began the four years with a strong social media presence. While the emphasis on social media diminished over the course of the past year, outreach events remained a strength. Media campaigns and outreach events helped to further spread awareness about the resources available and the message of harm reduction. The 'danger of using alone' message was also circulated through the county throughout the efforts of the past four years.

Table 15

Short-Term and Intermediate Outcomes for Media Campaigns from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Create awareness and education campaign for populations at risk of overdose	Data not previously tracked	**2**	2	1	1	1	**Achieved**
Outreach through social media campaign and radio spots	Data not previously tracked	**↑10%**	Radio One reported 252,542 social media views and iHeart radio reported 345,200 people reached	Twitter campaign produced 14 Tweets and 2,916 Tweet Impressions	Streaming radio/video platforms/Facebook/Twitter: 2 million+ impressions	Streaming radio/ video platforms/ Facebook	**Unable to compare as outreach efforts changed**

Increase Outreach through Social Media Campaigns and Radio Spots. In Year Four, CCBH coordinated three public service announcements that aired on Radio One which intended to educate the public about the toxicity of the drug supply, resources for treatment and access to naloxone. During Year Four, CCBH also participated in an Overdose Awareness Day event, MetroHealth's Changing the Tide Conference, and the US Attorney for the Northeast District of Ohio Heroin Opioid Task Force data subcommittee meetings. In this last year CCBH also became a Project Dawn site and provided outreach and education to ServSafe classes held at CCBH.

Due to changes in the types of outreach efforts, it was not feasible to evaluate whether outreach increased each year thereby precluding comparisons, the use of different media platforms, however, did increase the ability to reach wider audiences.

> *We take this work seriously. One person at a time, one community at a time to get the message out. And sometimes it is challenging and we're learning more about different messaging strategies, and that not all people are going to be on social media. And we're also learning about generational messaging.* - CCOD2A Focus Group Participant

Strategy Six – Linkage to Care

Agencies

The Centers for Families and Children (The Centers)

Cleveland State University (CSU)

MetroHealth Medical Center (MetroHealth)

St. Vincent Charity Medical Center (SVCMC)

Thrive Peer Recovery Services (Thrive)

Thrive4Change

The Woodrow Project (Woodrow)

Sisters of Charity

Strategy Six focused on linkages to care for individuals who have experienced a nonfatal overdose and/or individuals living with Opioid Use Disorder/Substance Use Disorder. The following activities were encompassed within this strategy:

- Expand Thrive peer supporters in the Emergency Departments (ED) and community-based outpatient services (Thrive);
- Expand Project SOAR (Supporting Opiate Addiction and Recovery) to Lutheran and Lakewood hospitals (Woodrow);
- Incorporate Screening Brief Intervention Referral and Treatment (SBIRT) training and practice into existing primary care operations (SVCMC);
- Increase warm handoffs to Medication Assisted Treatment (MAT) for at risk-populations – Expanding Access to Medication Assisted Treatment (ExAM) program (MetroHealth);
- Enhance *drughelp.care* resource linkage tool (CSU);
- Enhance awareness and outreach efforts of Syringe Services Program (SSP) (The Centers);[6]
- Expand Project SOAR to include a Patient Navigator;
- Development of Workforce Program to Support and Encourage Individuals to Become Peer Recovery (PR) Supporters (Thrive);
- Community-Based PR Services for uninsured individuals (Thrive); and
- Outreach to Service Entities Providing Immediate Services and Harm Reduction Services (SOC).

Thrive utilized a Center for Medicare and Medicaid evidence-based peer-to-peer support model that employs certified peer recovery (PR) supporters. These PR Supporters connected directly with individuals (or their family or friends) who presented in the SVCMC or MetroHealth overnight emergency department with a behavioral health diagnosis (particularly Opioid Use Disorder) to ensure awareness of and connection to treatment and other medical and/or social services in the community, if the client was willing to engage with the peer supporter. Thrive also provided support services from PR supporters to individuals seeking outpatient treatment services.

[6] The SSP was previously administered by Circle Health Services which merged with The Centers for Families and Children.

Woodrow used a PR supporter on-call model called Project SOAR, which provided services in the Cleveland Clinic Lakewood ED and Cleveland Clinic Lutheran Hospital ED. The PR supporter connected directly with individuals (or their family and friends) in the ER who experienced an overdose or who have an Opioid Use Disorder and agreed to meet with the Woodrow PR supporters, in order to ensure awareness of and connection to Opioid Use Disorder (OUD) treatment and other medical and/or social services in the community.

SVCMC provided referrals and linkages to care using the SBIRT tool for individuals who experienced a drug overdose or were otherwise at risk of experiencing an overdose based on a prescreen assessment. Case managers provided care coordination to those clients who expressed interest, including referrals to treatment for those with high assessment scores, assistance with navigating substance abuse treatment processes, and coordination of wraparound services.

MetroHealth's ExAM program, a case management system, helped to identify and assess inmates incarcerated at the Cuyahoga County Corrections Center who may have OUD. The objective was to provide MAT treatment and direct client care during incarceration, including the administration of buprenorphine and monitoring for medication adherence. Upon release from jail, ExAM linked clients with community-based MAT and other services.

The Centers (formerly Circle Health Services) enhanced its outreach services within its SSP by encouraging linkages to care for the individuals who visited their mobile sites. Care coordinators worked with clients to provide referrals for treatment of Drug Use Disorders and linkages for basic needs.

Sisters of Charity Health System (SOC). SOC Crisis and Recovery Services help people successfully link to care. Recovery Services professionals offered ongoing, evidence-based support to those experiencing serious and persistent mental illness, co-occurring substance use disorder, or trauma, with targeted services for those at risk of re-hospitalization or requiring more treatment than a traditional outpatient clinic could offer.

How agencies defined 'encounter,' 'engage,' 'refer,' and 'link' is included in Table 16 and an overview of client demographics for clients served by this initiative is included in Table 17. This report includes separate sections for each agency as there are differences in activities and primary indicators across the agencies. For example, each agency used different indicators for program participation, referral for services, and linkage to care. It is important to note that not all individuals encountered were referred or linked to treatment which could be due to a variety of reasons. If possible, partner agencies attempted to gather additional data from individuals to identify reasons and/or barriers as to why clients could not link with treatment.

Table 16

Agency Definition of Encounter, Engage, Refer, and Link

Agency	Encounter	Engage	Refer	Link
The Centers	Total encounters with Syringe Services Program participants and engagement with outreach workers		Clients referred to any treatment services	Referred clients who attended their MAT appointment
MetroHealth - ExAM	Inmates identified/ approached for participation in the ExAM Program	Inmates who participated in the ExAM program	Inmates referred to community-based MAT programs (inpatient/ outpatient) when released	Clients (former inmates) who attend treatment appointments once released
SVCMC	Clients screened positive on SBIRT for SUD and approached for a secondary screen	Clients who received a secondary SBIRT screen (Drug Abuse Screening Tool=DAST) for Drug Use Disorder (DUD)	Clients referred for treatment services for DUD	Clients who attended their referred appointment as confirmed by a social worker
SOC	Any individual brought, referred, or called in, who was in need of services.	Clients who received the SUD/MH screen and screened positive for DUD	Clients referred for treatment services for DUD	Clients who were linked with treatment services
Thrive	Notifications to peer recovery supporters of potential clients	Clients who agreed to participate in the peer recovery program	Clients referred to treatment services by peer recovery supporters	Clients known to have linked with treatment services, usually inpatient
Woodrow	Clients who agreed to speak to a peer recovery supporter about options	Clients who agreed to participate in the peer recovery program	Clients referred to treatment services by peer recovery supporters	Clients known to have linked with treatment services, usually inpatient

Table 17

Key Demographics for Clients for Year Four from September 2022 to August 2023

N		Peer Support Services Program		ExAM Program[a]	SSP Care Coordination Program[b]	Crisis Services
		Thrive[c]	Woodrow[d]	MetroHealth	The Centers	SoC
		144	**421**	**500**	**1093**	**102**
Age (average yrs., SD)		41.6 (12.6)	40.8 (12.3)	37 (8.8)	40.8 (10.9)	43.8 (15.2)
Race	White	61	267	351	924	30
	Black	69	145	108	107	66
	Other(multi)/ Unknown	14	9	41	62	6
Ethnicity	Hispanic	8	30	31	54	4
	Non-Hispanic/ Unknown	136	391	469	1039	98
Gender	Male	106	309	354	588	50
	Female	32	109	143	496	51
	Other/Unknown	6	3	3	9	1
Homelessness		49	100	NR[e]	NR	30
Time spent with Client (minutes) (average, SD)		73.5 (65.7)	94.7 (46.7)	NR	NR	44.7 (20.0)
Encounter		144	421	500	1093	102
Engage (Agree to Participate)		138	421	500	1091	51
Referred to Community Treatment Services		125	415	226	1091	28
Linked with Community Treatment Services		103	394	222	MAT=55	17

[a]ExAM referrals for community treatment only represent those individuals released from jail, not representative of all clients participating in the program.
[b]The Centers data includes individuals counted only once. These individuals however could participate in the SSP Care Coordination more than once.
[c]Thrive clients represented are the ones encountered in SVCMC ED and Rosary Hall and MetroHealth Overnight ED.
[d]Woodrow's initial approach were with clients who already agreed to speak with a peer supporter.
[e]NR=not reported.

Expand Project SOAR to Lutheran and Lakewood Hospitals and ExpandThrive ED – Woodrow and Thrive

The CCOD2A Initiative sought to increase the number of PR supporters to assist individuals in need of treatment services and link them to care. The core functions of ED-based peer recovery services are the integration of peer support within ED settings, identification of patients with opioid use disorder (OUD) in the ED, engagement of patients with peer support and facilitating linkage with treatment and other recovery services (McGuire et al., 2019). In Cuyahoga County, Thrive Peer Recovery Services and the Woodrow Project are two agencies that incorporated this client-centered treatment into their work.

Addiction professionals acknowledge the importance of treatment that enables engagement and helps an individual with skills needed for overcoming substance addiction. Historically, substance use disorders have been treated through intensive professional treatment; however, as the field has shifted towards a model that emphasizes a continuum of care, PR supporters are becoming valuable assets to help individuals actively engage in their recovery (Bassuk et al., 2014). Studies have shown that individuals who engage with PR supporters are less likely to relapse as PR supporters help an individual find a pathway of recovery that will help sustain their recovery journey (Eddie et al., 2019). Patients who engaged with PR supporters saw them as a model of hope and encouragement for behavior change, and someone who could provide support, and fill service gaps. The patients highlighted the need to address privacy concerns, concerns related to cost, insurance coverage and sustainability (Wagner KD et al., 2020); and identified lack of basic resources such as ID, cell phones, medical insurance, access to transportation, and homelessness as barriers to treatment (Powell KG et al., 2019).

Thrive provided peer support in the emergency department (ED) for SVCMC since the beginning of the CCOD2A project. With SVCMC closing down most of its operations in Year Four, including shutting down the Rosary Hall in November 2022, Thrive Peer Recovery Services started serving clients who presented at MetroHealth Overnight Emergency room beginning April 2023, in addition to SVCMC Psych ED. Thrive also provided peer support in two additional outpatient settings, MetroHealth Parma (MHP) and MetroHealth Broadway (MHB) for community-based peer recovery services which began in Year Two. Data were collected for PR support services within these hospitals. Woodrow provided Project SOAR at Lutheran and LakewoodHospitals. The evaluation question for these activities was ***how does the expansion and enhancement of peer recovery (PR) supporters in local hospitals increase the ability to engage and link clients who have experienced a nonfatal overdose into treatment?*** During the last four years, Thrive and Woodrow have been able to link 996 and 827 of the individuals they have encountered with treatment, respectively. Please note it is possible that individuals may be counted more than once if they presented more than once at the ED.

Thrive Key Indicators

Overview. Thrive PR supporters connected directly with individuals (or their family or friends), if they agreed to speak with the peer recovery supporter. Individuals, who presented in the ED with a behavioral health diagnosis (particularly OUD), at SVCMC ED and MetroHealth Overnight EDs were offered services to ensure awareness of and connection to treatment and other medical and/or social services in the community. Once Thrive on-call staff were notified and they arrived at the ED within 30 minutes to meet with the client. The SVCMC main campus closed down in November 2022, which resulted in closure of the EDs, and therefore impacted the number of clients encountered by their PR supporters in the SVCMC ED in Year Four. While SVCMC's psychiatric ED remained open in Year Four, many of the potential clients Thrive had encountered in the past came from their main ED.

In the four years of the CCOD2A grant, Thrive PR Services encountered a total of 1683 clients and engaged 87% of them (n=1467) in discussions regarding treatment (Table 18). Of the clients who did not engage with Thrive PR supporters, 63% were not interested, did not want to engage, or refused to engage with the peer supporters at the time of the ED encounter. Other reasons included clients being intoxicated, in withdrawal, not cooperative, or already engaged in treatment. Exploration regarding why clients did not engage with the PR supporter would be valuable. Although the number of clients encountered declined during the last year, this was due to the closing of SVCMC's Emergency Department where Thrive encountered most of its clients. ***During the grant, Thrive's PR supporters were able to increase the proportion of encountered clients each year who were linked with treatment from 27% in Year One, to 62% in Year Two, 64% in Year Three and 72% in Year Four.*** PR supporters were able to connect with individuals in a unique way; they came from a perspective of understanding where the client was coming from and where they had been, which helped ease clients into a willingness to engage in treatment.

> *We had a lot to relate on in the feelings that we felt. And that is where I go to and that is how I train other people because we could sit here and find our differences all day long. But we all have felt the same way and that's why we react the way that we do. We're kind of, it's a constant seeking of being outside of ourselves not feeling. We want distractions. And once you realize that, you can really essentially become relatable to anybody.* - CCOD2A Focus Group Participant

Demographically, although the overall predominant race of individuals encountered was White (n=706, 42%), with 634 (38%) Black/African Americans; the proportion of Blacks was higher than that of Whites in the last two years. Race for the remaining 343 clients was either identified as other, multiracial or not reported. A multivariate logistic regression, performed to examine the association of treatment linkages with clients' demographic characteristics, revealed that homeless clients had 2.6 times higher odds of getting linked with treatment compared to clients who were not homeless. However, no association was found between treatment linkage and age, race/ethnicity or gender of the client.

While detoxification remained the most commonly linked treatment service, a vast majority of clients were

also referred to Thrive's community-based PR services and other social services. Nevertheless, a challenge throughout the grant has been PR success in linking all clients referred to treatment.

Table 18

Short-Term and Intermediate Outcomes for Thrive Peer Recovery Support Services from September 2019 to August 2023

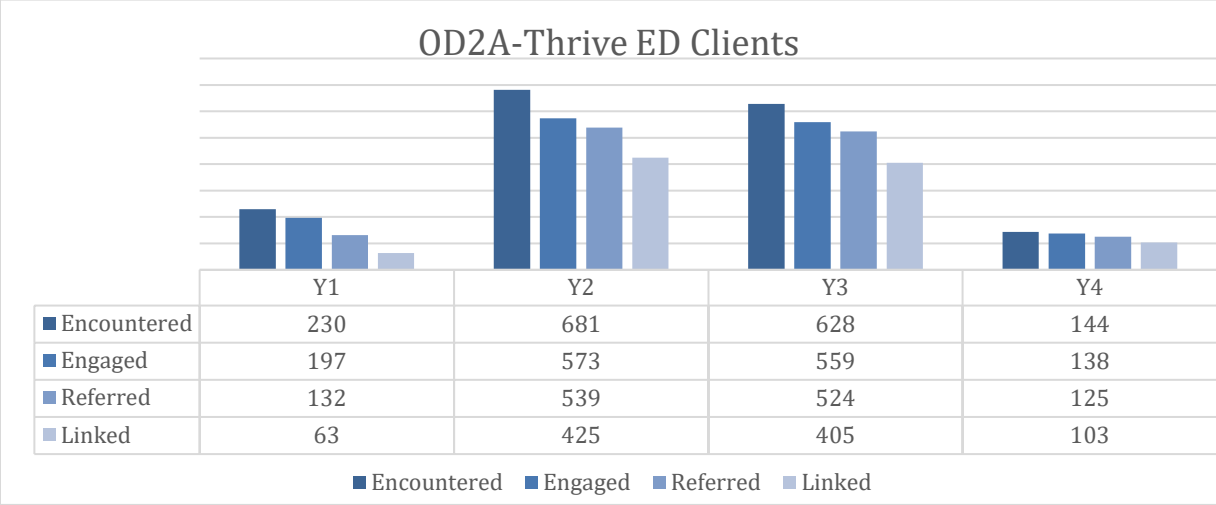
Description	Measure	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Personnel trained on linkage programs and services	Short-term	0	**N/A**	43[a]	51	23	8	**Achieved**
Time spent by PR supporters with clients	Short-term	0	**↑10%**	65 mins (average)	51 mins (average)	64 mins (average)	74 min (average)	**Achieved**
Notifications to PR supporters of potential clients (Encounter)	Intermediate	0	**↑10%**	230	681[b]	628[b]	144[c]	**Achieved in Years 2 and 3. There was a 77% decrease in encounters from Year Three to Year Four due to the closing of the SVCMC Main ED**
Clients who agreed to participate in program (Engage)	Intermediate	0	**↑10%**	197	573	559	138	**Achieved in Years 2 and 3. There was a 75% decrease in client engagement from Year Three to Year Four due to the closing of the SVCMC Main ED**
Clients referred to treatment services by PR supporters (Refer)	Intermediate	0	**↑30%**	132	539	524	125	**Achieved in Years 2 and 3. There was a 76% decrease in client referrals to treatment from Year Three to Year Four due to the closing of the SVCMC Main ED**
Clients linked with treatment (Link)	Long Term	0	**↑10%**	63	425	405	103	**Achieved in Years 2 and 3. There was a 75% decrease in client linkage to treatment from Year Three to Year Four due to the closing of the SVCMC Main ED**

[a]Incorrectly reported as 75 in the Year One Report.
[b]Thrive clients encountered in SVCMC ED (Main and Pysch) and Rosary Hall.
[c]Thrive clients encountered in SVCMC Psych ED, Rosary Hall and MetroHealth Overnight ED.

During Year Four, Thrive trained 8 additional hospital staff in peer support services. These include two providers, one nurse, a nurse practitioner, a resident doctor, a medical student, a counselor, and a patient services representative.

Figure 15

Thrive Encounters, Engagements, Referrals and Linkages Across All Years from September 2019 to August 2023



Encounter/Engagement in Program Services. Throughout the grant, Thrive PR supporters encountered 1683 individuals and engaged with 87% (n=1467) of them. An individual may have been encountered more than once if they came into the ED on more than one occasion (Figure 16). Thrive peer recovery supporters were notified by ED staff of individuals with a behavioral health diagnosis (particularly OUD). Data was only available for those individuals for whom Thrive received a referral. It is unknown at this time whether there were other individuals who experienced an overdose and came to an ED, but for whom Thrive peer recovery supporters did not receive a referral, and therefore were unable to track. This additional data would allow more insight into those who may be overlooked for treatment intervention. In Year Four, Thrive reported a significant drop in the number of ED encounters because of closure of SVCMC in November 2022. Thrive PR services continued working out of the Psych ED at SVCMC and tried to engage the individuals presenting there with treatment and other social services. Staff reported,

> *We're used to kind of rolling with the punches being folks in recovery like you know, the one day at a time mantra like that's perfect for situations like this because it's we're not worried about what's going to happen a month from now. That's fine, we'll deal with it. We're all going to be okay. That sort of kind of mindset was very important for us and it was a lot of supervision with staff.*
> - CCOD2A Focus Group Participant

Starting in April 2023, Thrive PR services commenced at MetroHealth Overnight ED.

Referral to Treatment Services. The majority of clients who agreed to engage with Thrive PR supporters were referred for services, (90%, n=1320). In Year Four, 91% of the individuals who engaged were referred for treatment services (n=125), 87% of all individuals encountered by Thrive. The most common referrals were for detoxification and inpatient treatment (Table 19). Over the four years, detoxification (n=957, 73%) and inpatient treatment (n=592, 45%) remained the most commonly referred treatment services. Clients could be referred to more than one treatment service.

Table 19

Type of Treatment referral by Thrive from September 2022 to August 2023

Types of Treatment[a]	No. of Clients Referred (n=125)		No. of Clients Linked (n=103)	
	N	%	N	%
Detoxification	84	67%	74	72%
Inpatient	80	64%	28	27%
Outpatient	23	18%	1	1%
Non-Professional (AA, etc.)	24	19%	0	0%
Medication Asst. Treatment	10	8%	0	0%

[a]*Clients could be referred and linked to more than one treatment service.*

Referral to Other Services. In addition to referrals for treatment services, Thrive PR supporters also facilitated referrals for clients to other services. In Year Four, 79% of the clients (n=109) were referred to other services. All clients were referred to community peer support. In the last four years, 99% (n=1,447) of the clients who engaged with PR supporters were referred to other services. During the grant, 1,426 clients were referred to community peer support. Additionally, some clients were referred for services relating to TANF/food pantry, assistance with clothing, transport, and child support among others.

> *We work with a lot of homeless peers in the ED. And we know that with this type of work, a lot of the times the things that they need to work on are not like medically based or like it's more about their social aspects. So, like if you don't have a house than like, that's going to be your main priority is figuring out where you're going to sleep tonight, rather than maybe like the wound care that you need. So really, it's helping them get over those barriers first, so that we can get to you know, working on their recovery, working on their insurance needs, like these other things that yes, they are needs and they're important, but like having somewhere to sleep is probably a lot more important first.* - CCOD2A Focus Group Participant

Linkage to Treatment. In Year Four, of those clients who were referred to treatment (n=125), 82% (n=103) were known to have linked with treatment services. Of those individuals linked to care, 72% of the clients were linked to detox (n=74), 27% to inpatient treatment (n=28), and 1% to outpatient treatment (n=1) (Table 19). The linkage status of 13 clients (13%) was not reported. Thrive clients cited varied reasons for not linking with a referred treatment service. Early departure before linkage (n=3), client wanting only outpatient treatment (n=2), or the client deciding to check into a treatment facility later (n=2) were the most common reasons. Other reasons for not linking with treatment were client deciding to explore other options (n=1), and a client being denied at the treatment center (n=1). As one Thrive staff person noted:

> *There's a lot more red tape and we just aren't there yet. In the same capacity that the medical field is, so we have to do a lot of data sharing and we have to do a lot of like data agreements to say like, 'You're working with this person. We're working with this person. Let's sign all of this paperwork. Okay, now I can share with you what they're doing.' And the other thing is like, not a lot of our data across agencies is compatible. So, I mean, we have agencies who are still doing paperwork, so they have to scan it and then they have to send it to us. Then we have to comprehend it, and then we have to put it into our system. So that's kind of challenging in itself… Seems like everybody wants to do an assessment, but nobody wants to share with us so the bio psychosocial assessments, like, if that could be streamlined, I feel like that would ... get rid of a lot of the barriers that we have, because that's like the thing that we need in order to treat people and I think that's across the board. That's what we need. So, if one person has it and they're working with another agency, I feel like sharing that would just streamline it because these peers like don't want to go through this process of telling their life story, which is their assessment, to 18 different providers. You know, that's a barrier for them in order to get service.* - CCOD2A Focus Group Participant.

During the grant, Thrive's PR supporters were able to increase the percentage of encountered clients each year who were linked with treatment from 27% in Year One to 72% in Year Four. Overall, 59% (n=996) of the clients encountered over the four years were known to have linked to treatment services. The majority of these clients (n=788, 79%) were linked with detoxification and 232 clients (23%) were linked with inpatient treatment. The most common reasons for clients not linking with treatment, as reported by the PR supporters, were client leaving or not willing, unavailability of beds, and insurance related issues.

Once an individual left the ED it was difficult for PR supporters to follow-up and make contact with the individual. The reasons for this barrier need to be examined so that more support may be provided to the clients by hospital staff when the client is waiting to be linked with treatment service. Despite these barriers, overall services were successful, and targets were met. One success story included a staff member who saw a client working at Progressive Field months after being encountered in the psychiatric ED and subsequently referred and linked to treatment. This particular individual relayed they were still receiving treatment services.

Transportation to Treatment. Thrive offered transportation to individuals who qualified for services after

completing the initial screening survey. Thrive transported 615 people to treatment in four years. In Year Four, 93 clients were transported to treatment by Thrive.

Self-Reported Substance Use. Beginning in Year Three, all clients who engaged with Thrive were asked about their substances use. Clients could provide multiple responses. In Years Three and Four, the most commonly reported substances used by the 697 clients who engaged with Thrive PR supporters were alcohol (n=302, 43%), cocaine (n=227, 33%), opioids (n=202, 29%), cannabis (n=113, 16%), and methamphetamine (n=52, 7%). In Year Four many clients reported using alcohol (54%, n=75), cocaine (54%, n=75), opioids (41%, n=56), cannabis (22%, n=30), methamphetamine (14%, n=19), and prescription stimulants (7%, n=10). Other less frequently reported substances were hallucinogens, sedatives, and inhalants.

Community-based PR Support. Beginning in the second year of the grant, Thrive PR services also worked with clients presenting at MHP and MHB outpatient clinics in addition to those presenting at the ED to engage them in community-based peer support. During this time, Thrive encountered a total of 414 clients and engaged with 174 (42%) in the MHP and MHB locations. These clients were already linked with treatment when Thrive PR supporters encountered them and Thrive PR supporters provided them with additional peer support. The majority of the clients who engaged with the PR supporters were non-Hispanic (86%), White (72%), and male (61%). Additional treatment referrals were provided to 41 clients, with 11 linked with treatment services.

In Year Four, Thrive PR supporters encountered 146 clients and engaged with 52 (36%) at MHP and MHB locations. Among the clients engaged with PR supporters, the mean age of clients was 47 years (SD=20 years). The majority were non-Hispanic (n=47, 91%), White (n=31, 60%), male (n=30, 58%) and two clients (4%) reported homelessness at the time of encounter. Six clients were referred to non-professional treatment services, and one to inpatient treatment. None of the clients were known to have been linked with treatment. All engaged clients were referred to community-based peer support. Assistance with transport and TANF/food pantry were also provided to clients. Regarding additional services staff reported,

> *… it's really been a great collaborative effort, I would say... I mean, there's programs that I started working on when I started here, and we're doing the same thing three years later. And we're making probably, probably a little bit bigger of an impact than when we started.* - CCOD2A Focus Group Participant.

Woodrow Key Indicators

Overview. Woodrow used a PR Supporter on-call model called Project SOAR. Project SOAR provided services in the Cleveland Clinic Lakewood and Cleveland Clinic Lutheran Hospital EDs. Woodrow continued to provide peer support services virtually during Year Four. The hospitals have iPads programmed to call a Project SOAR phone that is in service 24 hours, seven days per week. Individuals

who agree to speak to Woodrow staff are then connected directly with a peer recovery supporter. Staff described these services as follows,

> *…we always do virtually actually. That's the only way we see them… It's been fantastic actually…it keeps us out of the hospitals, which I think is good for hospital staff. You know, we're out of the way, we're just you know, on the phone and again, our job is to not only get that peer into treatment, but to make hospital staff their job easier too.* - CCOD2A Focus Group Participant.

Woodrow was able to achieve most of its objectives throughout the four years. Woodrow PR supporters were very effective in providing treatment linkages to the clients presenting to the ED with OUD/SUD, demonstrating the benefits of having PR supporters in the ED. One example of the benefits of their work is when a Woodrow PR supporter was able to help a 46-year-old male who needed detox. This individual also had multiple physical and mental health conditions. He had been diagnosed with PTSD, Bipolar 1 & 2, personality disorder, psychosis, and ADD. He had not taken his medication in 10 days. He also had congestive heart failure, stage three cirrhosis of the liver, edema, and recently had a stroke. Several facilities said they could not take him because of those issues, but one agency said they would take him, and if he chose to stay for treatment beyond detox, they would help get him to any upcoming doctor appointments he had. The patient was extremely relieved and appreciative of the help he received from both ED staff and Woodrow.

Woodrow PR supporters managed to link 828 out of the 923 (90%) clients encountered in four years into treatment services, despite COVID-19 restrictions that caused their services to switch from in-person to virtual (Table 20). PR supporters were able to facilitate connections between clients and treatment providers.

> *The peer supporter is consistently calling and talking to people … really working on those relationships with the treatment providers has been really helpful … there's people that would share their experience with her and both positive and negative experiences. And there was one provider that we had gotten like three different kinds of issues that had come up with people while they were there. So, X and X met with the treatment provider shared some of the people's experiences, the treatment provider, received it well … even though it wasn't super positive, because there were other people that didn't have positive experiences there, as well. As you know, we wouldn't continue to refer to them. But they then went through and made some adjustments … because we haven't heard those same struggles that that people had or disappointments that people have had expressed.* - CCOD2A Focus Group Participant

Woodrow clients were predominantly non-Hispanic White males, with an average age of 39 years, however, the number of Black/African American clients increased steadily over these four years from 14% in Year One to 34% in Year Four. Linkage to treatment was not found to be significantly associated with clients' demographic characteristics using a multivariate logistic regression analysis. Detoxification and inpatient treatment remained the most commonly linked treatment services. Transportation was provided to 28% of those referred to treatment. In the last three years, Woodrow contacted their clients for 30-day, 90-day, 6-month, and 1-year follow ups, and averaged 11%-25% response rates. The most common reason for the clients to remain in recovery was wanting a better life, and associating with wrong company was the most common reason for relapse. A barrier Woodrow encountered throughout the grant cycle was difficulty connecting with individuals once leaving the ED. The response rate to follow-up surveys was low, as PR supporters found it very difficult to contact the clients by phone. Staff may consider exploring strategies to maintain contact so retention can be better measured.

The number of clients encountered by PR supporters in the ED was 178 in Year One, with similar numbers in next two years before rising significantly in the last year, showing over 100% increase from Year Three. This could be partly attributed to the closure of SVCMC, a large hospital in the city of Cleveland. As one staff person described

> *… with St. Vincent Charity Hospital... shutting down operations beginning in October, we saw our numbers like double from the previous month and just a huge influx of people and we've consistently since then seen higher numbers.* - CCOD2A Focus Group Participant.

Table 20

Short-Term and Intermediate Outcomes for Woodrow Peer Recovery Services from September 2019 to August 2023

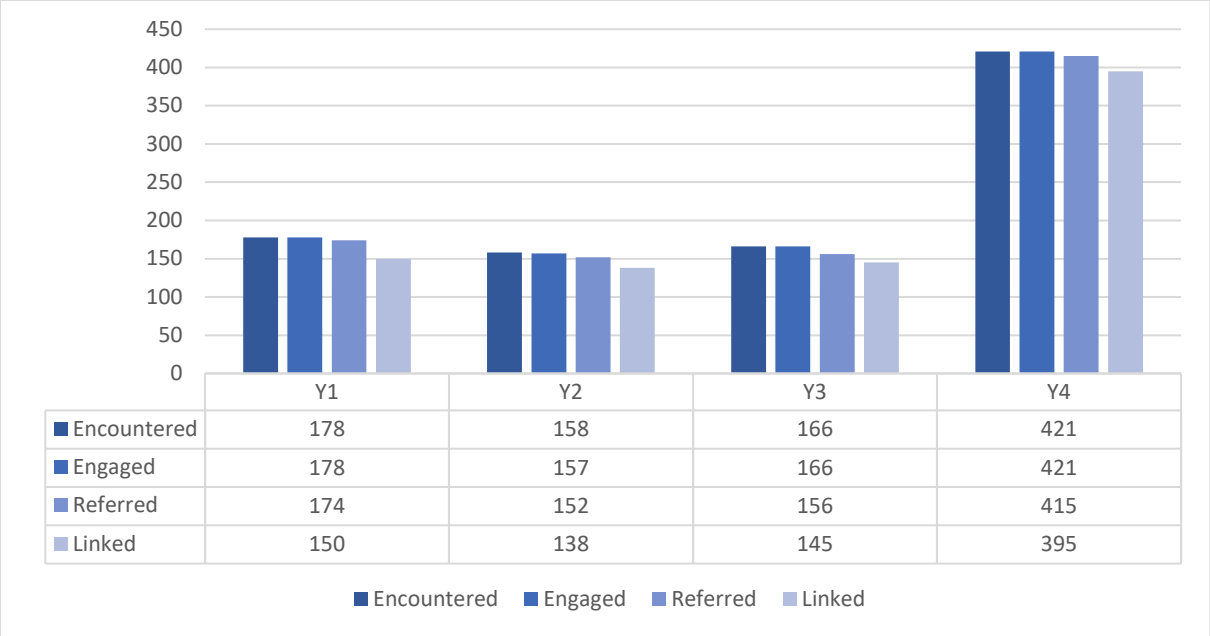
Description	Measure Type	Baseline	Target	Y1 Data	Y2 Data	Y3 Data	Y4 Data	Outcome Status
Support personnel trained on linkage programs and services	Short-Term	0	**↑10%**	30	1	0	1	**Achieved**
Time spent by PR supporters with clients	Short-Term	0	**↑10%**	117 mins (average)	122 mins (average)	110 mins (average)	95 mins (average)	**14% decrease from Year 3**
Notifications to PR supporters of potential clients (Encounter)	Intermediate	0	**↑10%**	178	158	166	421	**Achieved**
Clients who agreed to participate in the program (Engage)	Intermediate	0	**↑10%**	178	157	166	421	**Achieved.**
Clients referred to treatment services by PR supporters (Refer)	Intermediate	102	**192**	174	152	156	415	**Achieved**
Clients linked with treatment (Link)	Long Term	0	**↑10%**	150	138	145	395	**Achieved**

Encounter/Engagement in Program Services. During the grant, Woodrow PR Support engaged with almost all clients encountered (922 out of 923) in the ED (Figure 17). Data were only available for those individuals for whom Woodrow received notice of a willingness to speak with them. It is unknown whether there were other individuals who experienced an overdose and came to the ED, but were unwilling to speak with Woodrow PR services. This additional data would allow more insight into people who may be overlooked for treatment intervention. Staff agreed and relayed that they wondered if

> *… there is something that we could do to be able to reach those people like in the future? Or is there something that we can do differently to be able to serve a larger audience of people?* - CCOD2A Focus Group Participant.

Figure 16

Woodrow Encounters, Engagements, Referrals and Linkages Across All Years from September 2019 to August 2023



	Y1	Y2	Y3	Y4
Encountered	178	158	166	421
Engaged	178	157	166	421
Referred	174	152	156	415
Linked	150	138	145	395

During the four years of the grant, most of the clients were non-Hispanic (88%) White (74%), although the proportion of Whites decreased steadily from Year One (84%) to Year Four (63%), and the percentage of Blacks increased from 14% in Year One to 34% in Year Four. Similarly, the proportion of Hispanics decreased steadily from Year One (17%) to Year Four (7%). The clients were predominantly men (68%), and 19% (n=178) reported homelessness at the time of ED encounter. In Year Four, most of the clients were non-Hispanic (n=386, 92%), White (n=267, 63%), and male (n= 309, 73%).

Referral to Treatment Services. From September 2019 through August 2023, Woodrow referred 897 clients (97%) of those PR supporters engaged in the ED to treatment services. Clients could be referred to more than one treatment service. Detoxification (n=755, 8%) and inpatient treatment (n=450, 50%) were the most common referrals. Clients were also referred to outpatient services (n=35, 4%) and other services including MAT (n=24, 3%); 433 clients were referred to more than one treatment service. In Year Four, 99% (n=415) of Woodrow's clients who agreed to participate in the program were referred for treatment services. Of those individuals who agreed to receive peer recovery services, 189 (46%) were referred to one treatment service, and 226 (54%) were referred to two treatment services. Similar to the first three years, detoxification was the most commonly referred service (n=387, 92%), followed by inpatient treatment (n=236, 56%), and outpatient treatment (n=11, 3%). The clients were also referred to a halfway house (n=3, <1%), non-professional services (n=2, <1%), MAT (n=1, <1%), and a shelter for women and children

(n=1, <1%).

> *The hope that the peer supporters bring to the patients that they are working with. I know people who have gone into hospitals that have not had the same experience that they're leaving, they're feeling you know, physically they may be okay, but their mental health and their emotional health has not been looked at whatsoever. And with the peer support is they do provide that sense of hope that you know, I've literally been where you are, I have gone through and been able to make changes and you know, be able to have a completely different life. So, that hope that the peer supporters bring to the patients that they are working with, is game changing.* - CCOD2A Focus Group Participant

Linkage to Treatment. Woodrow PR services successfully linked 90% (n=828) of the clients encountered with treatment services in the four years of the grant. Clients could be linked with more than one treatment service. The most common services clients were linked with included detoxification (n=755, 91%), and inpatient services (n=429, 52%). Clients were linked with outpatient services (n=35, 4%), and other services including MAT (n=23, 3%). Of the 828 clients linked with treatment, 50% (n=416) linked with more than one treatment service.

> *When people need help, that's when they need to be able to get into treatment. Not two weeks later, when a waitlist opens up. They need to be able to access services when they are reaching out and asking for help. And I think we've shown that you can do that really well. And really, you could make a difference not only in that person's lives, the lives of their family members and the community in which in which they live. The other parts that I personally would add is that because of the work that peer supporters do with the hospital staff and as people in recovery, I think we're also reducing the stigma around substance use disorder and helping hospital staff.* - CCOD2A Focus Group Participant

In Year Four, 95% of the clients referred to treatment services (n=395 out of 415) were known to have linked with at least one treatment service. This proportion was higher than the linkages seen in the first three years. Of the total number of clients linked with treatment, 173 (44%) were known to have linked with one treatment service and 222 (56%) clients were known to have linked with two treatment services. Detoxification remained the most commonly linked-to treatment (n= 366, 93%), followed by inpatient treatment (Table 21). Twenty clients did not link with any of the treatment services.

Table 21

Type of Treatment referral and linkages by Woodrow from September 2022 to August 2023

Types of Treatment[a]	No. of Clients Referred (n=415)		No. of Clients Linked (n=395)	
	N	%	N	%
Detoxification	387	92%	368	93%
Inpatient	236	56%	231	58%
Outpatient	11	3%	11	3%
Medication Asst. Treatment/Other	7	2%	7	2%

[a]*Clients could be referred and linked to more than one treatment service.*

Barriers to Linkage. Overall the most common reason clients did not link with treatment after getting referrals, as reported by the PR supporters, was the client walking away or changing their mind (n=32 out of 69, 46%). Other reasons included clients getting aggressive or irritable, client refusing the available treatment, lack of insurance, and unavailability of beds.

In Year Four, 20 clients did not link with treatment. When asked to indicate the reasons they did not link with treatment, similar to the first three years, client walking away or changing their mind was the most common reason (n= 12, 60%), followed by client not returning call (n=6, 30%) and client being uncooperative or irritable (n=5, 25%). Other reasons were unavailability of beds, clients refusing the available treatment referral, client wanting to wait before getting into treatment, lack of insurance, coexisting medical or mental health issue, and bed bugs on the client. In a focus group with staff they noted,

> *…people come in and they're sick. They're sick. From you know, withdrawal and they're irritable. Most of them are not taking their mental health medications. So, getting them to get through that. I think why people walk away really is they get irritable and they're sick of waiting or just change their mind. I mean, they just go back to what they know. Some of them just aren't at that point (for treatment).* - CCOD2A Focus Group Participant.

Transportation to Treatment. Woodrow offers transportation to treatment for all individuals who are not already transported by the hospital service. In four years, Woodrow transported 254 clients to their treatment of which 161 were during Year Four.

Family Services. For all clients encountered during the grant period, family members were present or were contacted by the PR supports in 16% (n=144) of the cases. For the 248 clients who had children under 18, resources were provided for children for 96 of those clients. In Year Four, 14% (n= 59) of all the clients encountered had their family members present or contacted by the PR supporter, 83 clients (20%) had children under 18 involved and 10 clients were provided with resources for their children.

Substance Use in past 30 days. Starting in Year Two**,** Woodrow collected information from clients on their past drug use. The clients could give multiple responses. In Year Four, almost all of the clients (420 out of 421) admitted to using alcohol and/or drugs (either prescription or non-prescription) in past 30 days. The most commonly reported substance was alcohol (n=268, 64%), followed by street opioids (n=238, 56%), prescription opioids (n=225, 53%), cocaine (n=189, 45%), and cannabis (n=108, 26%). Methamphetamine and sedatives (sleeping pills) were other commonly used drugs as reported by the clients. ***In Year Four, 271 out of 421 clients reported they never had an overdose, and therefore never visited an ED to get treated for overdose. Out of the remaining 150 clients who reported having an overdose, 35 (23%) never visited an ED to get treated for overdose.*** (In addition to approaching clients who have experienced an overdose, Woodrow also reaches out to individuals with suspected OUD).

In the last three years, almost all (743/745) clients admitted substance use. The most commonly self-reported substances were street opioids (n=447, 60%), prescription opioids (n=376, 51%), cocaine (n=314, 42%), and alcohol (n=360, 48%). Cannabis, methamphetamine and sedatives (sleeping pills) were some other commonly reported drugs. A slight majority, 56% (n=418), self-reported that they never had an overdose and 43% clients reported one or more overdoses (n=321), of which 191 clients reported their last overdose occurred at a residence (their own or someone else's). Of those who reported experiencing an overdose, 285 clients reported that they were given naloxone once or more upon overdose, and 256 went to ED/hospital at least once because of overdose.

Woodrow client follow-up. As part of an additional evaluation component, starting Year Two, Woodrow also reached out to clients who engaged with a Woodrow peer recovery supporter in the hospital ED 30 days, 90 days, 6 months and one year after their ED encounter. This follow-up data is cumulative, from Years Two, Three and Four. Woodrow reached out to 707 clients for their 30-day follow-up, and received responses from 178 clients, a response rate of 25%. For their 90-day follow-up, 65 out of 580 clients completed the survey, a response rate of 11%. At six months, Woodrow was able to connect with 85 out of 500 clients (17%) and at one year, 59 out of 367 clients (16%). The most common reason clients could not be reached was no response from the clients to multiple attempts made by the PR supporter. The clients who responded to the surveys were asked questions about their treatment, services received, homelessness, and concerns about drug use and treatment. Table 22 summarizes data collected for clients regarding treatment and homelessness. During a focus group a staff member relayed,

> *…it is so rewarding, to make those phone calls and they are so appreciative that we don't just put them into recovery and then forget about them. I've had a lot of good calls. I had a gentleman I just called randomly, and he was in a basement and he needed help. I mean, those phone calls, you never know who you're going to reach…I've developed relationships because, I keep calling them, some of them even have blocked me because I'm so consistent.* - CCOD2A Focus Group Participant.

Table 22

Woodrow Client Follow-Up from September 2020 to August 2023

	30-Day (n=178)		90-Day (n=65)		6 Months (n=85)		1 Year (n=59)	
	N	%	N	%	N	%	N	%
Currently Engaged in Treatment	114	64%	32	49%	25	29%	15	25%
Type of Treatment[a]								
Inpatient	21	18%	7	11%	5	20%	0	0%
Detox	46	40%	8	12%	6	24%	1	7%
Outpatient	36	32%	10	15%	4	26%	5	33%
Residential/Sober House	28	25%	8	12%	6	24%	1	7%
MAT	2	2%	0	0%	0	0%	3	20%
Meetings and Sponsor	0	0%	0	0%	1	4%	0	0%
Aftercare	0	0%	0	0%	1	4%	3	20%
Other	0	0%	0	0%	1	4%	2	13%
Homeless	33	18%	8	12%	19	22%	2	3%
Ever been in jail or prison	106	59%	43	66%	45	55%	28	48%
Working on Recovery	163	91%	59	91%	81	96%	57	98%

[a]Clients can indicate more than one type of treatment.

Over 90% of the clients at each point in time reported that they were working on their recovery. Clients were asked to identify factors keeping them in recovery. ***Overall, wanting a better life (44%-52%) was the most common reason that kept clients in recovery***. Other common reasons cited by clients were meetings with sponsors or recovery groups, Intensive Outpatient Treatment (IOP), and family.

Clients also provided reasons for relapsing. About 30% to 44% of the clients in these surveys said that nothing could make them go back to misusing drugs. For the remaining clients, ***associating with old friends or being in the wrong company were the most common reasons cited (17%-25%)***. Other reasons were stress or clients' mental health issues, boredom, grief or loneliness, and pain.

A majority of the clients at 30-day (97%), 90-day (94%), 6-month (99%), and 1-year (100%) follow-up did not express any concerns about engaging in treatment. COVID-19 infection, using drugs again, embarrassment to family and friends, stigma, work, and pain medication issues were some of the concerns noted by clients. Similarly, a majority of the clients did not report any barriers related to engaging in treatment (94% at 30 days, 86% at 90 days, 91% at 6-month, and 97% at 1-year). Reluctance to talk about

personal life, lack of insurance, COVID-19 infection, transportation issues, and work-related issues were reported as barriers. Types of social services clients were receiving were also examined. The most availed social services across the follow-up surveys were Medicare and Medicaid (78%-95%), TANF/food pantry (39%-51%), and Supplemental Security Income/Social Security Disability (SSI/SSD) (12%-14%). Other services received by clients were assistance with child support/childcare, housing, education and identification.

Incorporate SBIRT Training and Practice into Existing Primary Care Operations - St. Vincent Charity Medical Center

Overview. St. Vincent Charity Medical Center (SVCMC) utilized the Screening, Brief Intervention, and Referral to Treatment (SBIRT) tool in two of their medical-surgical units and their outpatient health center to increase the identification of patients with SUD (Substance Use Disorder) who needed treatment services.[7] SBIRT is an effective way to integrate SUD management into primary care and general medicine. An evaluation of a cross-site SBIRT program funded by SAMHSA found that greater intervention intensity was associated with larger decreases in substance use. Both brief intervention and brief treatment reduced the frequency of alcohol and illicit drug use (Babor et al., 2017). Other studies concluded that SBIRT helped create awareness and recognition of patients with SUD and facilitated their treatment (Moberg & Paltzer, 2021), and reduce the number of subsequent hospital visits for SUD for patients receiving SBIRT (Cooper et al., 2022). The evaluation question for this activity was ***how does use of the SBIRT in clinics/hospitals increase the identification and linkage of participants in need of treatment services?***

The SBIRT program ran from April 1, 2020 to November 15, 2023. Year One was a partial year that ran from April 1, 2020 to August 30, 2021 and Year Four was also a partial year due to the closure of SVCMC, and only ran from September 1, 2023 to November 15, 2023. Therefore, Years Two and Three were the only two years that had full year services of the SBIRT Program during the grant cycle. Despite ending early in Year Four, the SBIRT program was able to achieve its objectives (Table 23). A total of 8,384 individuals agreed to the initial SBIRT screening. A total of 474 unique patients with Drug Use Disorder (DUD) were identified to receive the secondary screening called the Drug Abuse Screener Test (DAST), with a 97% agreement rate to take the DAST. About 22% of the participants identified as White, 75% were Black, and 3% were Other/Unknown. Less than 1% of participants self-reported to be Hispanic, while 24% were non-Hispanic. The remainder (75%) was unknown/refused. The majority of the patients were male (60%), followed by female (39%), and other (1%). About 14% of the patients reported homelessness. Despite the early closure of the St. Vincent Emergency Department where the SBIRT program took place,

[7] In the Year One report, it was incorrectly noted that SVCMC was providing SBIRT to patients in its Health Care Center (HCC) (primary and specialty care clinic) and to all inpatients of its Medical Center.

98 unique patients were linked to services to address their DUDs. Overall, the SBIRT program was a critical screening tool to identify DUD patients and demonstrated the importance of using such tools to identify, refer, and link those patients to treatment services.

Table 23

Short-Term and Intermediate Outcomes for SBIRT Program from September 2019 to November 2022

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Increase the number of support personnel trained on linkage programs and services	0	**N/A**	55	2	0	0	**Achieved**
Increase the number of facilities adopting the SBIRT as a means to link patients with treatment services	0	**↑10%**	2	1	0	0	**Achieved**
Increase the number of patients who are given initial SBIRT screening	0	**2,175.**	362	3,973[b]	3,989	60[c]	**Achieved**
Increase number of patients with drug use disorder approached for a secondary DAST screen (Encounter)	0	**↑10%**	55[a]	246	149	24	**Achieved**
Increase the number of patients with drug use disorder who are given the secondary SBIRT Screening (Engage)	0	**↑10%**	49[a]	239	147	24	**Achieved**
Number of patients referred for treatment services after SBIRT screening (Referred)	0	**↑50%**	23[a]	97[c]	147	12	**Achieved**
Number of patients with drug use disorder (DUD) linked with treatment (Link)	0	**↑10%**	16[a]	34	44	4	**Achieved**

[a]The SVCMC Year One Data (April 1, 2020 – August 31, 2021) was updated to only reflect patients who had screened positive for DUD.
[b]SVCMC Year One Data collected was for four months.
[c]The SBIRT program continued from September 1, 2022 to November 15, 2022 for Year 4 until SVCMC ceased operations.

The SBIRT screens patients for Substance Use Disorder (Drug Use Disorder and Alcohol Use Disorder), Anxiety, Depression, and Trauma. SVCMC began providing the SBIRT Screening instrument to patients in one medical-surgical unit in April 2020 and was able to expand to a second by the end of Year One. Year

Two was the first full year for the SBIRT program being implemented in SVCMC. In Year Two, SVCMC was able to add SBIRT in its Health Care Center (HCC) (primary care clinic). Although challenges from the COVID-19 pandemic persisted into Year Two, the SVCMC's SBIRT program stayed on track.
Year Three was the second year where the SVCMC's SBIRT program was fully implemented. For Year Four, the SVCMC closed its emergency room and inpatient services on November 15, 2023. Due to this closure, the SBIRT program was discontinued. Year Four only includes approximately two and a half months of data.

Encounter/Engagement in Program Services. During the shortened Year Four report, the SVCMC SBIRT Team screened a total of 60 patients using the SBIRT primary screen, with 24 patients screening positive for DUD. Of the 24 patients with drug use disorder encountered, all patients (100%) agreed to the secondary screen (DAST). Over the four years of the grant, a total of 474 patients were approached for receiving the DAST secondary screen and 97% agreed to participate in the secondary screening, with Year Two having the highest number of patients (n=246).

Additional analyses focused on the drug types and drug combinations reported by patients with Drug Use Disorder (DUD). After completing their primary SBIRT, patients who completed the secondary screening for DUD were prompted to report the drug types they used. Response options included Cannabis, Opioids, Sedatives, Stimulants, Amphetamines, Cocaine, Other drug types/Unspecified drug types, Hallucinogens, and Inhalants. Table 24 summarizes the drug types used as reported by patients with DUD from Year Four. This additional reporting can assist in highlighting trends of polysubstance (i.e., the use of two or more drugs) among patients encountered in clinical settings. In Year One, approximately 26% of the patients with DUD reported polysubstance misuse (13 out of the 50 patients, 26%). In Year Two, 52 of the 301 patients reported misuse of more than two drugs (17%). In Year Three, 43 out of the 232 patients reported misuse of more than two drugs (18%) and in Year Four, only 1 of the 20 patients reported misuse of two or more drugs.

Table 24

SVCMC SBIRT Total Patients Encountered Drug/Drug Combinations Reports from September 2019 to November 2022

Self-reported Drug Use	New Patients	Subsequent Encounters	Total No.	%
Cannabis only	11	1	12	60%
Opioid only	1	0	1	5%
Cocaine only	2	0	2	10%
Cannabis and Cocaine	2	0	2	10%
Cannabis and Opioid	1	0	1	5%
Cannabis, Stimulant, Hallucinogen	1	0	1	5%
Unknown	0	1	1	5%
Total	18	2	20	100%

Referral to Treatment Services. In Year Four, of the patients' encountered, half were referred for general treatment services (n=12). All the patients encountered who refused a referral self-reported they were not interested in treatment. During the program a total of 361 patients, who were positive for DUD, were referred to treatment services. Year Three had the highest number of individuals referred (n=229).

Linkage to Treatment. For those patients with DUD who agreed to a referral for treatment in Year Four, 44% (n=4) were confirmed to be linked to treatment services. These individual patients were linked with various forms of treatment. The majority (50%) were linked to Medication Assisted Treatment (MAT), while the remaining went to Outpatient Counseling/Therapy or received linkage to Case Management services. During the grant, a total of 98 DUD patients were linked to treatment services, with Year Three having the highest number of patients linked to treatment services (n=44).

Transportation to Treatment. All SBIRT patients were offered transportation to treatment. During the partial Year Four, none of the 4 patients linked to care accepted transportation compared to one patient in Year Three.

Increase Warm Handoff to MAT for At-Risk Populations (ExAM Program) - MetroHealth

Overview. MetroHealth's ExAM program sought to increase warm handoffs to Medication Assisted Treatment (MAT) for at-risk populations. The program provides MAT to persons incarcerated in the Cuyahoga County Corrections Center and upon release facilitates warm handoffs to community-based MAT. Rates of opioid use in criminal justice populations are disproportionately high relative to the general population. Many studies report that MAT provided during incarceration helped to increase community-based treatment engagement (Chamberlain et al., 2019; Gordon et al., 2014; Larney et al., 2014). The

evaluation question was ***how can Cuyahoga County increase MAT services for at-risk populations***? MetroHealth achieved all objectives for this activity (Table 25). Incarcerated individuals are one of Cuyahoga County's most at-risk populations, including risk of overdose upon release from jail.

> *We certainly see I would probably say an above average rate of co-occurring mental health and addiction issues with folks in the jail. It seems that that population is uniquely prone to being arrested, which is difficult for them, but I guess good for us that we're able to kind of capture them. We have a good relationship with the mental health court docket ... They seem to really appreciate us being at the jail and being able to offer MAT and some linkages to care… with COVID a lot of community agencies are not able to go to the jail and access these patients… we are kind of uniquely positioned again there to be able to get in front of the right people.* - CCOD2A Focus Group Participant

> *I'm pleasantly surprised that more of the judicial system is getting on board with mental health and addiction treatments. You know, 10 years ago, I think a lot more people went straight to prison without even a discussion about treatment. And I see that tide changing. The county court system here is now launching what three or four different mental health dockets and drug court dockets that just did not exist two years ago, or three years ago. All of that basically, is good for our clientele, because that means the judicial system is becoming more supportive of help versus incarceration, which is big progress.* - CCOD2A Focus Group Participant

> *I just think the more people we can touch base with the more people we can get connected to MAT, while they're incarcerated, while they're at a vulnerably high point in their life. I have to believe that we are preventing an absolutely significant wave of fatal overdoses by having our programming down in the county jail. I think it would have taken years and years for other agencies or organizations to get to where we are now... funding in this programming has saved a significant amount of lives within the county of incarcerated population.* - CCOD2A Focus Group Participant

During the last four years, the ExAM program engaged over 2,096 of the clients, 98% of all clients approached for participation. While the ExAM program was able to refer and link many of the individuals released from incarceration to community-based MAT (78% of clients referred for community-based MAT, n=743), referring and linking these individuals upon release proved challenging. Especially during the COVID-19 pandemic, the program often did not receive sufficient notice that a client was going to be released from the jail; therefore, they were not always able to connect with them to ensure they still had the contact information provided to them at enrollment for referral and resource information upon release. The program also made attempts to connect with the clients after release, but it was often difficult to locate them at this point.

Table 25

Short-Term and Intermediate Outcomes for MetroHealth ExAM Program from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Increase the number of inmates identified for ExAM Program (Encounter)	414	↑**10%**	517	583	528	500	**Achieved**
Increase the number of inmates who participate in the ExAM program (Engage)	414	↑**10%**	489	580	527	500	**Achieved**
Increase the number of warm-handoffs to community-based MAT (Refer)	63	↑**10%**	209	236	72	226	**Achieved**
Increase the number of clients linked with treatment (Link)	Data not previously collected	↑**10%**	206	87	65	222	**Achieved**

Encounter/Engagement in Program Services. During Year Four, from September 2022 through August 2023, 500 inmates at the Cuyahoga County Corrections Center were assessed and approached for participation in the MetroHealth ExAM program. ***100% of those inmates agreed to participate in the MetroHealth ExAM program.*** During the grant, the ExAM program has consistently achieved positive outcomes. In **the initial year**, 83% of encounters resulted in inmate engagement (*n*= 489 out of 517 encounters), 99% in Years Two (580 out of 583 encounters) and Three (527 out of 528 encounters) and 100% in the final year (500 out of 500 encounters). ***Over the last four years, the ExAM program has engaged 98% of the inmates approached for participation in the program.***

An examination of client racial demographics across four years shows that the majority of clients were White (73%, n=1,545) and 20% were Black/African American (n=423). The remaining 7% of the clients self-identified as multi-racial or did not provide any information. These findings warrant further examination. While the data shows a substantial skew towards White participants, it is unclear whether there were fewer Black/African Americans identified with SUD in the jail or reasons they were not identified for participation.

Referral to Treatment Services. The MetroHealth ExAM program refers all clients who participate in the program for community-based treatment services, including MAT services. During Year Four, 226 inmates were released from jail and of those, 226 were referred to community-based MAT (Table 26).

Table 26

MetroHealth ExAM Clients Referred for Community Treatment Upon Release from Corrections Center from September 2022 through August 2023

	Frequency	Percent
Inpatient/Residential	143	38%
MAT suboxone to Matt Talbott	72	19%
Intensive Outpatient	55	15%
Warm hand off suboxone to Harbor Lights	36	10%
Warm hand off to CATS	24	6%
Threshold Bridge Clinic	21	6%
Warm hand off to MEC	16	4%
2nd Bridge prescription suboxone	3	1%
Warm hand off to Moore Health Counseling	3	1%
Warm hand off to Oriana House CCTC	2	<1%
Dr. Appt vivitrol shot alcohol only	1	<1%
Warm hand off to Costa House	1	<1%
Warm hand off signature health	1	<1%

** Clients could be referred to more than one service*

As clients are referred once they are released from jail, it is not feasible to calculate the percentage of clients referred for treatment who were involved in the program since release dates vary and could cross program years. During the last four years, the program referred 743 clients for community-based MAT. All MetroHealth ExAM clients referred for treatment were provided with vouchers for transportation for community treatment services. The ExAM team has streamlined referral sources to prevent duplication of services, allowing providers to concentrate on new patients for purposes of community linkage to care. Staff explained

> *…reconsolidating the referral network once they get into the jail, we did some things in our electronic health record to kind of consolidate and make it easier for folks …We tried to streamline where we're getting our referrals from so that we're not duplicating services and that providers are seeing as many brand-new patients as possible and then the rest of us are following up and doing the more linkage to care piece ….* - CCOD2A Focus Group Participant

Although the intent is to refer all clients to community-based MAT, the ExAM program did struggle in trying to facilitate a referral if the client was released without the program's knowledge.

> *The lesson learned from my perspective is trying to get them in the treatment, but when they leave us, it is often challenging because all the different entities that work here and how they release*

clients and how we get notified is a lot of communication with different individuals getting different reports sent to you daily and just sifting through it to see which clients are yours… but I feel it's worthwhile to get them in treatment once they leave and get into the community. - CCOD2A Focus Group Participant

In Year Four, 222 clients were also referred for other community-based services. Services included Housing/Shelters (*n*=104), Medicaid/Medicare Assistance (*n*=91), Transportation (*n*=66), Employment/Education Assistance (*n*=53), and identification (*n*=20). During the program, housing was the most common referral for other services (Table 27).

Table 27

Types of Referrals for Community-Based Non-Treatment Services All Four Years from September 2019 to August 2023

	Frequency
Housing/Shelters	104
Medicaid/Medicare Assistance	91
Transport	66
Employment/Education Assistance	53
Identification	20
Clothing	8
Legal Assistance	6
ADC/TANF Food Assistance	5
Children and Family Services	3
Other	3
SSI/SSD	2
Total	361

**Clients could be referred to more than one service*

Linkage to Treatment. In the last year, nearly all of the 226 clients who were referred for community-based MAT treatment services were linked to treatment (98%, *n*=222). It is noteworthy that the ExAM program demonstrated a high success rate in terms of their linkage of individuals, once released from jail to community-based MAT programs, 78% of all clients referred for community-based treatment. This achievement demonstrates the effectiveness of the program in ensuring a smooth transition for individuals re-entering the community, connecting them with vital treatment services, and maintaining ongoing support.

Not only do we connect them to service once they leave the jail, because of the relationships we build with the clients, they will contact us if the jail puts him in an inpatient treatment or the jail orders them to inpatient treatment. They will contact us upon their release from that treatment and we will also transition them back into the community to an outpatient treatment, whether it's through

MetroHealth or somewhere else that they would like to go. So, I think that's a very unique part that not many programs have that. We will stay linked with them, even through their inpatient treatment.
- CCOD2A Focus Group Participant

A challenge the ExAM program experienced was regarding the sharing of information across counties. Cuyahoga County does not currently share information with other counties, nor does it have oversight over them. To improve the linkage to care success, sharing data to support each county is essential.

… we don't get a lot of other information like within the state, you know, like our program here in Cuyahoga County. I was hoping it wasn't novel, but I think it's a lot more novel than that …so it would be useful for us to kind of know about like, are other places, doing it more successfully, or… we're kind of figuring it out as we go and trying to make it better…., using data to support …
- CCOD2A Focus Group Participant

Despite its challenges, the ExAM program was very successful. The following are just a few examples that help illustrate the benefits this program had for at-risk populations returning from incarceration. One client who participated in the last year of the grant was linked to inpatient treatment. He stayed in a sober living house for four months before moving back home. Currently, he is actively participating in aftercare, regularly meeting with a peer supporter, and job hunting. A major achievement is that he reached one year of sobriety in August 2023. Another client enrolled in the ExAM program in August 2021. After successfully finishing inpatient treatment in May 2023, he is now in the Intensive Outpatient Program (IOP) and receives monthly Vivitrol injections. His recovery plan was completed in August 2023, and he is actively pursuing returning to school. A third client became a part of the ExAM program in February 2022. After successfully finishing inpatient treatment in March 2023, he transitioned to a sober living environment. The client has maintained verified employment for a year, reaching this milestone in August 2023.

Enhance *drughelp.care* Resource Linkage Tool – Cleveland State University

Overview. Cleveland State University's (CSU) *drughelp.care*, a website-based application that provides real-time recovery resources has become an established resource tool to the greater Cleveland area over the past four years. The evaluation question for this activity was ***in what ways was Web-based technology effective in reaching and linking clients to treatment services***? In the last year of the grant, the team at CSU saw an increase in the use of the Web application, made enhancements to increase its usability, found a core group of agencies that regularly update their service availability and conducted focus groups to understand how the website could be more community friendly. *Drughelp.care* has grown throughout the OD2A Initiative, registering more agencies and services than originally targeted (Table 28). At the onset of the Initiative, staff pivoted to register agencies and services via Zoom due to COVID. Towards the end of the grant, staff realized this method might not be as effective as connecting with community agencies face-to-face and switched back to meeting with agencies in person.

Drughelp.care is proud of the inclusive nature of information provided on their website about each agency. The website lists restrictions a particular agency may have in order to be most helpful for those seeking care. *Drughelp.care* has made this feature very comprehensive to support individuals ready to engage in treatment so that restrictions/limitation of an agency are known prior to engagement. While monthly data reports the numbers of those accessing the app, it's not able to provide the number of individuals linked to care after finding the services from the web application. During Year Four, Woodrow staff shared with CWRU evaluation staff they were able to find services for a specifically challenging case with the help of *drughelp.care*. Without anecdotal success stories like this, measuring the number of individuals linked to services is a limitation of this activity.

Table 28

Short-Term and Intermediate Outcomes for drughelp.care from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Increase the number of new agencies registered on the web app	46	**96**	31	21	9	3	**Achieved**
Increase the number of agencies inputting information on web-app	25	**↑10%**	31 (avg./month)	41 (avg./month)	37 (avg./month)	22 (avg./month)	**Achieved**
Increase the number of clients using the web-based app	2,265	**↑20%**	4,332	12,273	17,590	14,654	**Achieved**
Increase # of new treatment services included on the web-app	293	**↑5%**	99	106	47	10	**Achieved**

Design and Usefulness of the Web App. For the past four years, the *drughelp.care* team at Cleveland State University (CSU) has been continuously making changes to the existing website. In Year Four, the following enhancements were made:

- A new chatbox feature was added;
- A feature that allows web users to search for free naloxone access (by address, zip code or current location);
- An updated results page, that includes both a map and list view; and
- Addition and inclusion of agencies not registered in order to be more comprehensive as it relates to resources available in the community.

Each year *drughelp.care* staff conducted focus groups and interviews to obtain feedback on the ease of usability, areas for improvement and feedback on specific features. During Year Four, only one focus group

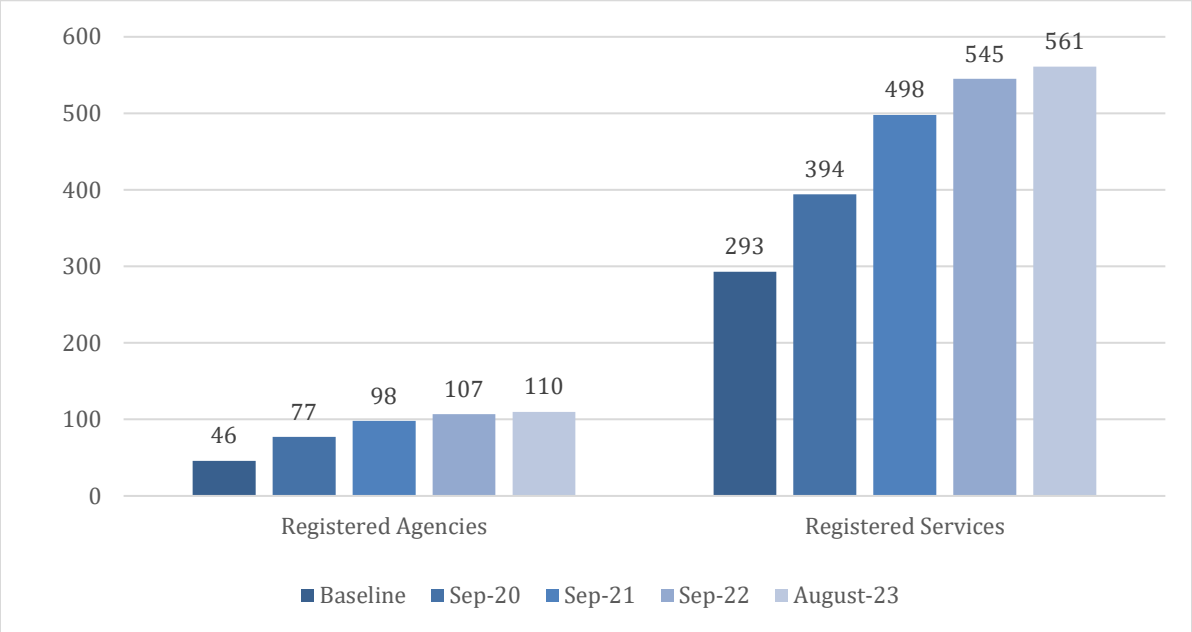
with three participants occurred. Staff reported that while holding focus groups generated thoughtful feedback, participants would frequently cancel last minute after previously agreeing to participate.

Over the period of the grant, trainings were held to introduce and engage service providers and others to the app. While the number of those trained in Year Four was substantially less than previous years (n=58), ***a total of 470 persons received training through the OD2A Initiative, well exceeding the target of 100 persons.***

Agency and Service Registration. At the start of the OD2A Initiative, there were 46 agencies and 293 treatment services registered on *drughelp.care*. At the end of the grant there were 64 additional agencies and 262 treatment services registered on the web app (Figure 17), ***an 89% increase of treatment services registered on the web app since the start of the CCOD2A Initiative.***

Figure 17

Drughelp.care Registered Agencies and Services from September 2019 to August 2023



In the last quarter of Year Four, staff started adding agencies that provided recovery/harm reduction services in the county but were not formally registered on the website, allowing the website to include all services more comprehensively throughout the County.

> *Being able to pull up our map for like our harm reduction services, there might be a cluster of needle exchanges in one area, but no needle exchange in another area...I think that's a nice feature to have to be able to look for areas that maybe you're lacking in certain services.*
> - CCOD2A Focus Group Participant

Services that utilize evidence-based practices (EBPs) were also tracked and increased from Year One (Table 29).

Table 29

Evidence-Based Practices on drughelp.care from September 2019 to August 2023

Evidence-Based Practice	Year One (2019)	Year Four (2022)	Change (n) ↑
Cognitive Behavioral Therapy (CBT)	47	283	236
Motivational Interviewing	238	476	238
Harm Reduction	111	288	177
MAT (Buprenorphine, Methadone or Vivitrol) and Allow (but don't prescribe)	210	627	417
Twelve-Step Programs	201	389	188
Psychoeducation	124	320	196
Dialectical Behavior Therapy (DBT)	127	283	156
Trauma Focused Counseling	183	414	231
Contingency Management Therapy	39	129	90
Total	1,280	3,209	1,929

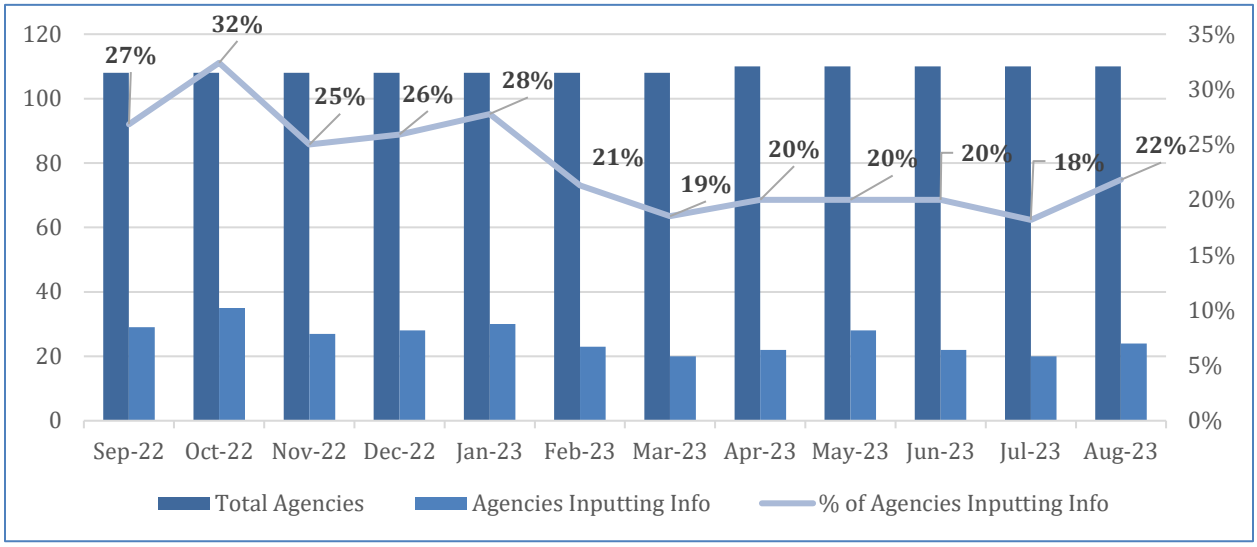
One unique feature of *drughelp.care* is that it provides agencies and clients with close to real-time information regarding treatment availability by number of open slots, treatment type, and location. Although Year Two and Year Three of the grant experienced a decline in the overall percentage of agencies making updates, in Year Four the number of agencies making updates stayed relatively consistent (Figure 18), although, only three new agencies were registered. The total number of registered services on the Web app increased by 16 in Year Four.

> *All the detailed information we collect for each service offered in Cuyahoga County I think, is really valuable in terms of thinking about what's lacking, what's needed in the community.* - CCOD2A Focus Group Participant

According to *drughelp.care* staff, the same group of agencies regularly provide updates, and as so many agencies were added in prior years the number of additional agencies available to register during Year Four was consequently smaller. Staff relayed that contacting and setting up a meeting with the "right person" became a barrier that may have impacted the number of agencies providing regular updates to the website. Further, staff turnover following COVID was thought to have directly impacted real-time updates as well. To increase the comprehensive nature of the web app staff started adding agencies that were not registered but available in the community to the web app. Staff became aware of 95 additional agencies and by August 2023, 85 of them were added to their web app.

Figure 18

Agencies Making Updates on drughelp.care from September 2022 to August 2023

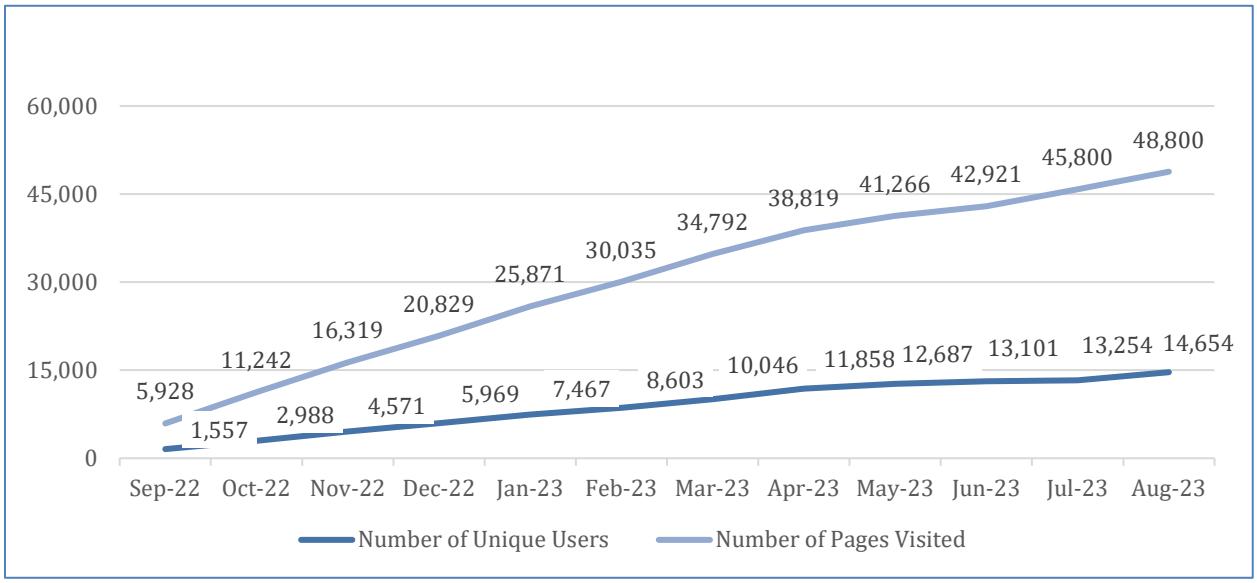


***Drughelp.care* Usage.** The number of unique users accessing the *drughelp.care* website was measured using the Internet Protocol (IP) address. This number was collected and reported cumulatively from month to month to avoid possible duplication. The number of pages visited was also collected cumulatively. The number of unique users as measured by IP address in Year Four was 14,654 and the number of page visits was 48,800 (Figure 19). These numbers are lower than seen in past years but continues to show that the Web app was accessed for those looking for resources in the community.

> *When we were talking about like the bird's eye view of the opioid epidemic and everything… I think not tracking where a person is using the site is a great idea to keep anonymity for people that are looking for help … but it does make it difficult for us to be able to target like what areas are seeing more engagement.* CCOD2A Focus Group Participant

Figure 19

Drughelp.care Usage from September 2022 to August 2023



Enhance Awareness and Outreach Efforts of Syringe Service Program – The Centers Syringe Service Programs (The Centers)

Overview. The Centers sought to enhance awareness and outreach efforts of its SSP. Through the CCOD2A Initiative, the Centers expanded its outreach services within its SSP by providing better linkages to care for the drug-using community who visit their mobile sites, including integrated health and wellness, workforce development, and early learning and family support for community members across Cuyahoga County. The evaluation question for this activity examined ***whether the enhancement of care coordinators involved with SSP in Cuyahoga County increased the county's ability to engage individuals misusing opioids into treatment.*** The Centers five brick-and-mortar locations and two mobile locations offer a range of services for those in need. The SSP operates at four of these locations, aligning with regions identified as high burden overdose areas. Two of these four locations are serviced by a mobile van unit, designed to remove barriers to harm reduction by eliminating the need to walk into a health clinic and expediting the exchange. Care Coordinators worked with SSP program participants to provide referrals for treatment and linkages for basic needs.

The Centers achieved the majority of its objectives. Although the number of clients encountered each year slightly decreased in the last few years, Care Coordinators were able to engage and referred the majority of the clients to treatment services (Table 30).

Table 30

Short-Term and Intermediate Outcomes for SSP Care Coordination from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data[a]	YR 2 Data[a]	YR 3 Data[a]	YR 4 Data[a]	Outcome Status
Increase number of agencies referring clients to SSP	10	**11**	Data currently not available	Data currently not available	1[b]	1[b]	**Achieved**
Number of clients who were approached about SSP Care Coordination (Encounter)	Data not previously collected	**↑10%**	2,057	2,332	1,142	1,093	**Achieved**
Number of clients who engage with the SSP Care Coordinator (Engage)	707	**↑10%**	1,166	2,325	1,133	1,091	**Achieved**
Increase number of clients referred to treatment services by SSP Care Coordinator (Referred)	707	**↑30%**	1,166	2,325	1,133	1,091	**Achieved**
Number of clients linked with MAT treatment (Link)	Data not previously collected	**↑10%**	28	57	47	55	**Achieved**

[a]Clients could attend the SSP more than once in a given year. Clients are only reported once each year.

[b]Clients reported referrals to the SSP by 2 different agencies in years 3-4, and through word-of-mouth.

During the last four years, the percentage of clients engaging with an SSP Care Coordinator improved significantly from Year One (57%) to Year Four (99%). All clients were also consistently referred to treatment services by the SSP Care Coordinator throughout the four-year period. While there was notable progress in client engagement and consistent referral to treatment services, the percentage of clients linked with services known to the evaluators was limited only to MAT treatment which remained relatively low over the years. The evaluators were not able to obtain follow-up information on linkage to care for the majority of the SSP clients due to PHI (Personal Health Information) restrictions. In the last year of the grant, the Centers was able to track linkage to other services, including inpatient, outpatient and detox (n=111) in addition to linkage to MAT.

SSP Care Coordinators introduced new clients to advertisements and promotions about treatment programs. The data spanning four years indicates that clients were increasingly interested in referrals for treatment, 48% of new clients in Year One were interested in the program compared to all clients in Year Four. During the grant, an examination of the data suggests that there are barriers, including challenges in reaching disadvantaged populations with care coordinators and facilitating referrals to treatment within the program. The program served primarily White clients (84%) with a smaller percentage of Black/African Americans (7%) and Hispanic (7%) clients. When considering a client's first visit to the SSP during the grant period, and whether they accepted a referral to treatment, the data indicates that White individuals have a higher proportion of agreement to a referral over the course of four years, with approximately 1.5 out of 10 new clients agreeing. In contrast, only 0.5 out of 10 new Black/African American clients agreed to a referral for treatment (Table 31).

Table 31

Number of Clients Agreeing to a Referral to Treatment via the SSP from September 2019 to August 2023

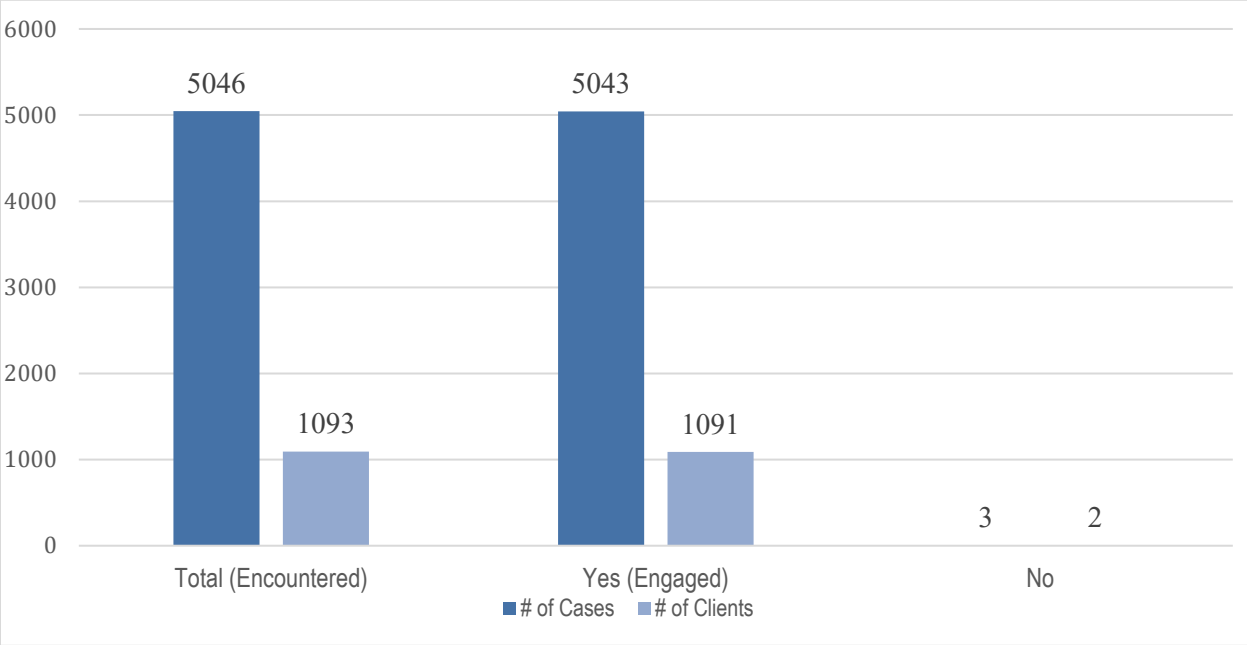
	Year One[a]				Year Two[a]				Year Three[a]				Year Four[a]			
	Referred		Not Referred		Referred		Not Referred		Referred		Not Referred		Referred		Not Referred	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
White	389	**15%**	939	35%	186	**16%**	846	75%	9	**2%**	323	81%	41	**8%**	400	75%
Black/AA	25	**1%**	67	3%	7	**1%**	78	7%	2	**<1%**	44	11%	1	**<1%**	60	11%
Other	15	**<1%**	31	1%	0	**0%**	9	1%	2	**<1%**	18	5%	4	**1%**	20	4%
Unknown	52	**2%**	1149	43%	0	**0%**	1	<1%	0	**0%**	2	<1%	0	**0%**	7	1%

[a]Data reflects only clients first visit to the SSP during the grant. Clients are only counted once across all four years.

Encounter/Engagement in Program Services. During Year Four, the SSP encountered 5,046 individuals, 1,093 unique individuals. Of these unique individuals, most individuals agreed to talk with the SSP care coordinator at least once (99%, n=1,091) (Figure 20). The SSP care coordinators had the opportunity to discuss treatment services with these individuals on a number of occasions during the year, as a person could have come to the SSP more than once and agreed to discuss treatment options. ***Over the last four years, the SSP has engaged 4,531 unique individuals in discussions about treatment services, 96% of all those encountered (n=4,727).***

Figure 20

Engagement of Clients out of Encounters from September 2022 to August 2023



Referrals to Treatment. In Year Four, almost all individuals who interacted with the SSP care coordinators, were referred to treatment (n=1,091) and of those a small percentage agreed to treatment services (16%, n=173). In recent years, the number of clients agreeing to a referral to treatment has declined. In Year One, 53% of the clients referred agreed to the referral (n=1406), 33% in Year Two (n=376) and 10% in Year Three (n=38). When looking at the number of unique clients who were referred for treatment services across all four years of the 4,727 clients, 40% accepted a referral for treatment (n=1917).

Of those clients who were referred to services in Year Four, 61% (n=104) of the clients were referred to more than one type of treatment service. The majority of the Centers' clients were referred with MAT (11.6%, n=62) and Medical (26.2%, n=140) (Table 32).

> *I think one thing we've noticed, especially in the past three months since we incorporated peer support specialists ... peer support specialists can ... take them to detox or take them to inpatient like in the moment that they're insanely want to go and I think they're not used to that so there's hesitation ... we've removed you know, the barrier of having to wait like a day or two and do intake or whatever, by having somebody who's able to be with them through that process or, or knows the system enough to like get them where they need to go.* - CCOD2A Focus Group Participant

Table 32

The Centers' Client Referrals by Treatment Type from September 2022 to August 2023

Types of Referrals for Treatment		Count Per Client		Multiple Cases by Client*	
		Single- N	%	Multiple- Ns	%
	Multiple Referrals	104	60%		
Internal service	Medical	26	15%	140	26%
	Dental	7	4%	18	3%
	Behavioral Health	7	4%	55	10%
	MAT	5	3%	62	12%
Outside - service	Detox	6	4%	46	9%
	Inpatient Treatment	2	1%	12	2%
	Outpatient Treatment	0	0%	75	14%
	Abscess	14	8%	71	13%
	Emergency Department	0	0%	43	8%
	PreP	2	1%	13	2%
		173	100%	535	100%

[a]Clients could be referred to more than one service.

Examining types of referrals for service across all four years, Detox was the most common referral (28%), followed by Behavioral Health (23%) (Table 33). The Centers has also seen an increase in referrals for MAT, especially with the removal of the DEA Waiver. As one focus group participant noted,

> *X-Waiver -- that definitely expanded who could work with MAT. So, I think before it was like a tiny team of like one to two folks that did it and then now, we have providers across primary care.*
> - CCOD2A Focus Group Participant

Table 33

The Centers' Client Referrals by Treatment Type Across All Four Years from September 2019 to August 2023

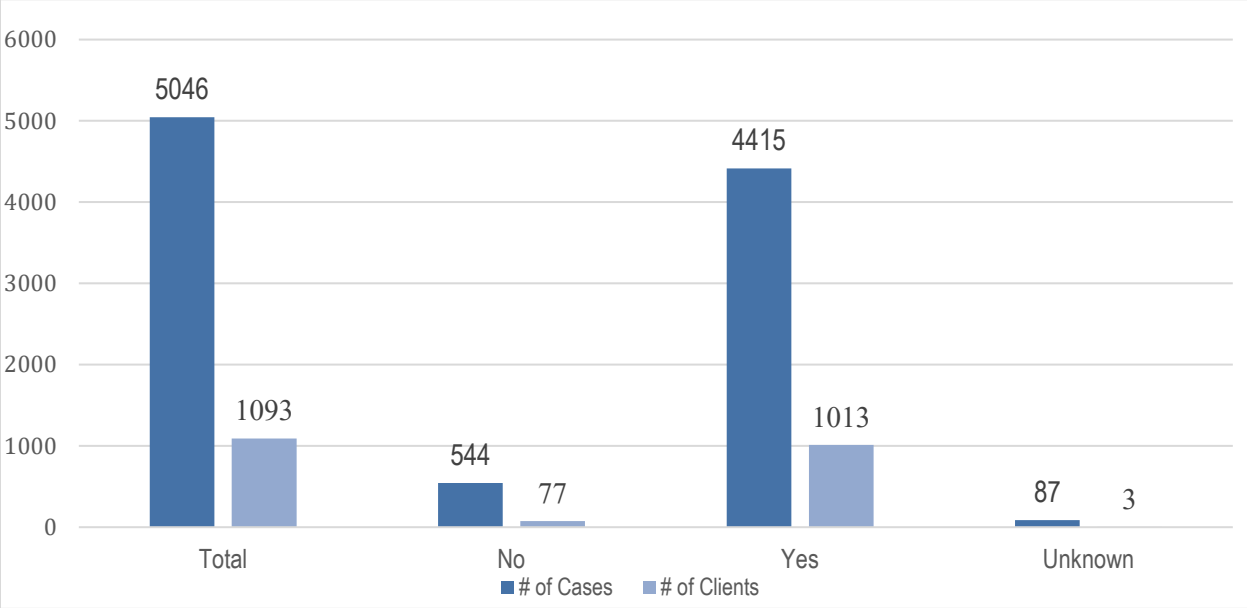
Types of Referrals for Treatment		Multiple Cases by All the Client[a]	
		Multiple- Ns	%
Internal - service	Medical	1152	20%
	Dental	472	8%
	Behavioral Health	214	23%
	MAT	299	5%
Outside-service	Detox	1652	28%
	Inpatient Treatment	903	15%
	Outpatient Treatment	926	16%
	Abscess	116	2%
	Emergency Department	55	1%
	PreP	82	1%
		5871	**100%**

[a]Clients could be referred to more than one service.

Project DAWN Kits. As part of the harm reduction services offered by the Centers' SSP, Project DAWN kits were made available. During Year Four, a total of 4,415 individuals reported having a Project DAWN kit at time of encounter with a care coordinator. Since the total number includes each reported case, clients could be counted more than once. There were 1,013 unique clients who reported having a Project DAWN kit. Only 7% of the clients reported not having a Project DAWN kit (n= 77) (Figure 21). ***Over the last four years, 85% of all individuals offered harm reduction services reported having a Project DAWN kit (n=4,006).*** For this analysis, individuals were only counted once even though they may have visited the SSP multiple times during the four-year period.

Figure 21

The Centers' Clients who Possessed a Project DAWN Kit at Time of Encounter from September 2022 to August 2023

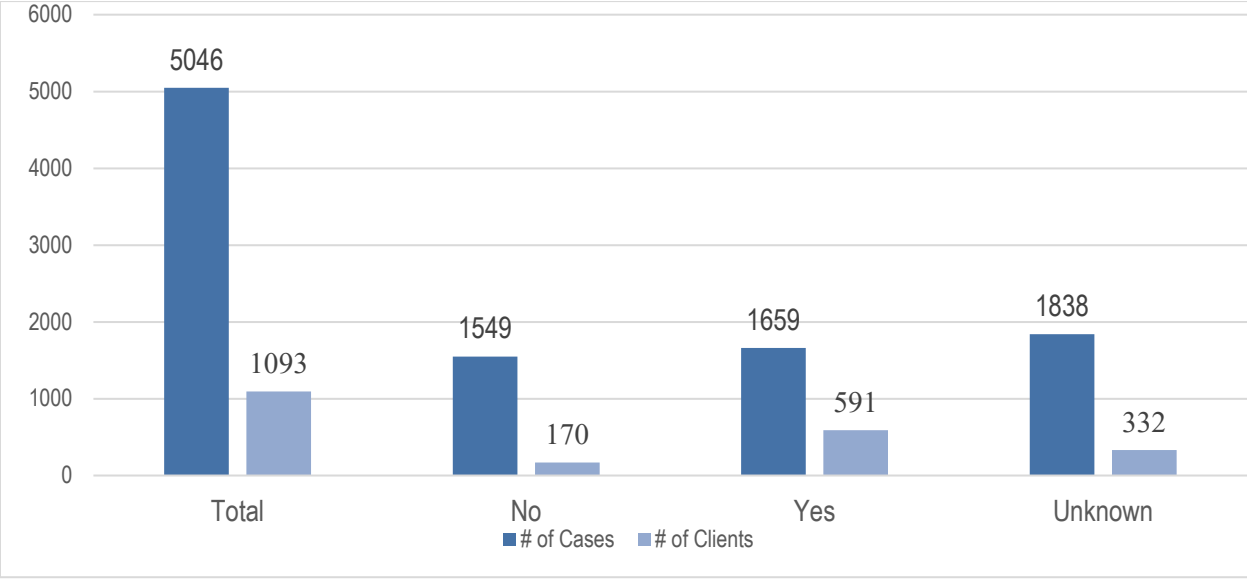


> *With overdose prevention, especially like our fentanyl strip testing … I think there's a lot of knowledge and education around fentanyl. So, folks that are familiar opioid users have kind of educated themselves and, been receptive to our education on testing their supply, but at this point, most of the supply is not heroin. And they're all pretty aware of that. So, the fentanyl test strips kind of become for some folks, they're like, "why would I test it if I already know it's fentanyl?" And so, that kind of shows, again, that our education and in our distribution of supplies were very effective in some ways. But as the supply changed, like, who needs them now? And so that's why we kind of responded by kind of expanding to folks that use other substances, because our folks that use opioids are familiar and are aware, but folks that don't, they need the same education and access to education and supplies.* - CCOD2A Focus Group Participant

Naloxone Prior Use. During Year Four, 1,659 individuals reported using their last Narcan kit to reverse an overdose. Clients could have been counted more than once as the number includes each reported case. For unduplicated clients, 54% (n=591) reported using naloxone to reverse an overdose and only 16% have not used naloxone to reverse an overdose (*n*=170) (Figure 22). ***Over the last four years, 56% of all the individuals reported using their last Narcan kit to reverse an overdose (n=2,663).*** For this analysis, individuals were only counted once even though they may have visited the SSP multiple times during the four-year period.

Figure 22

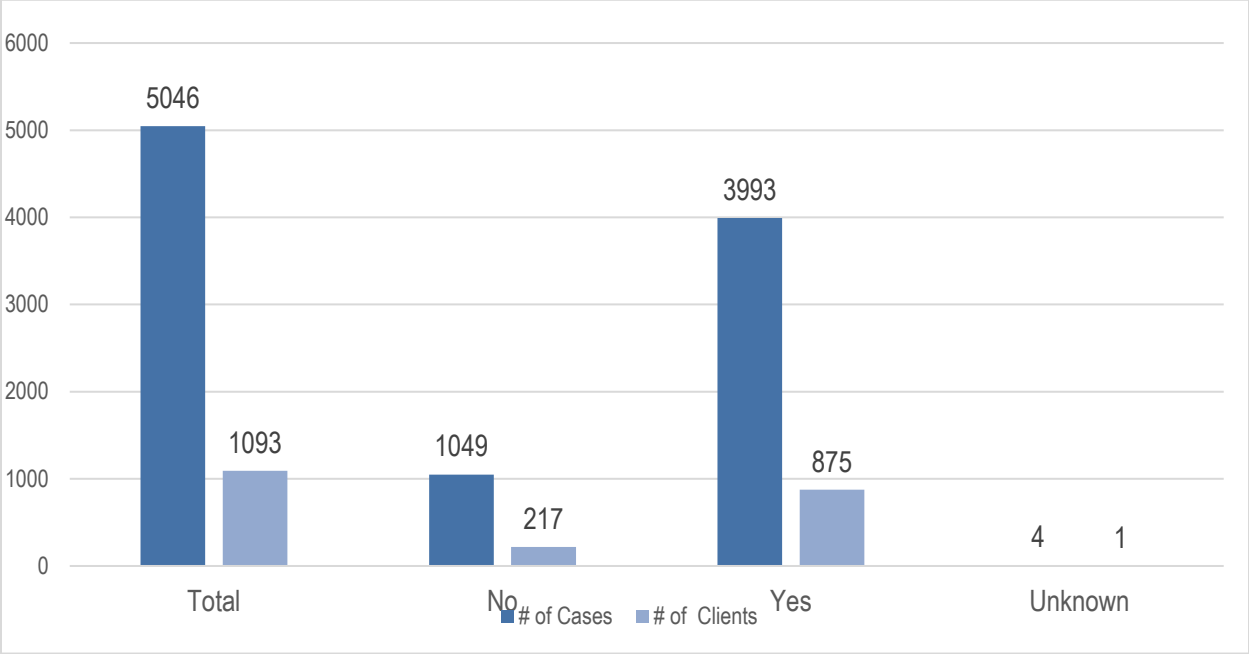
The Centers' Clients' Naloxone Use from September 2022 to August 2023



Referrals to Project DAWN. Approximately 79% of the individuals participating in SSP in Year Four were recorded as having received a referral to Project DAWN (n=3,993) (Figure 23). Project DAWN provides prevention and educational information to clients as well as naloxone. Clients could have been counted more than once, as the number includes each reported case. For unduplicated clients, 80% (n=875) were referred at least once. ***Over the last four years, 77% of all individuals offered harm reduction services were reported to have been given a referral to Project DAWN (n=3,619).*** For this analysis, individuals were only counted once even though they may have visited the SSP multiple times during the four-year period.

Figure 23

The Centers' Project DAWN Referrals from September 2022 to August 2023



Expand Project SOAR with a Patient Navigator to assist with activities that promote recovery and independence (Woodrow)

In Year Three of the OD2A Initiative, Woodrow hired a patient navigator to assist their residential clients with services that would promote recovery and independence. The evaluation question examined ***how the addition of a Patient Navigator assists in the recovery and linkage to support services for clients who have experienced a nonfatal overdose.*** The Patient Navigator identified the needs of clients at the time of encounter, linked them to appropriate services, and then completed a follow-up survey at 90 days to report on the status of clients' engagement with the Patient Navigator and their progress in meeting the needs/services identified by the client. A client could be linked to more than one service. In Year Four, the patient navigator completed discharge surveys for clients who left the recovery house after 90 days, to record the status of needs that were not completed at their 90-day follow-up period. Woodrow achieved all of its objectives for this activity (Table 34). One of the best means to highlight the accomplishments of the Patient Navigator is through sharing a resident's story.

When a resident moved into the recovery house, she was homeless and unemployable; she had lost custody of her son and had been cut off from her family for more than six months. She had significant co-occurring mental health and substance use disorder episodes. With the assistance of the Patient Navigator, the resident reached many of her goals and made considerable strides towards others. She saved money,

got her driver's license reinstated, bought a car, and obtained insurance. The resident scheduled and attended all appointments, enrolled in college, and during this time significantly increased her credit score. The resident was able to move out of recovery housing and rented a home with her significant other. In working to regain custody of her son, she learned how to be an active mother in his life and is also active in her family's lives. By actively participating in the service work in her chosen pathway of recovery, she is committed to helping other women in recovery. At the time of this report, she was currently 21 months sober and remains involved in the recovery community. The resident shared, “Recovery housing was the best decision that was ever made for me, it really taught me structure and how to grow up.” She also stated that having the support of others to whom she could relate helped her cement her desire to consistently progress in life as well as to help others. “I really am excited to see what my future holds, and that’s not something I ever thought would be the case

Table 34

Short-Term and Intermediate Outcomes for Woodrow Patient Navigator from September 2021 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Clients served by patient navigator	Data not previously collected	**N/A**	Data not previously collected	Data not previously collected	28	50	**Achieved**
Identify client needs to facilitate linkage to supportive services	Data not previously collected	**N/A**	Data not previously collected	Data not previously collected	Most common needs were transportation , employment, and housing.	Most common needs were transportation, volunteer opportunities, employment, and housing.	**Achieved**
Identify barriers that prevent or delay clients’ participation in supportive services	Data not previously collected	**N/A**	Data not previously collected	Data not previously collected	In progress of identifying barriers	Client moving out of the facility before the 90-day period	**Achieved**
Interactions between Patient Navigator and clients	Data not previously collected	**2 per/wk**	Data not previously collected	Data not previously collected	Data not previously collected	2 per/wk	**Achieved .**
Percentage of clients’ needs addressed through assistance of Patient Navigator	Data not previously collected	**↑40%**	Data not previously collected	Data not previously collected	76%	88%	**Achieved**

From April 2022 to August 2023, the Patient Navigator encountered 78 clients and spent an average of 32 minutes (SD=11 minutes) with each client in the initial encounter. All clients were female (one client male to female transgender), with an average age of 39 years (SD=12 years). The Patient Navigator interacted with individuals residing in Woodrow's recovery housing. The majority of the clients self-identified as non-Hispanic (n=73, 95%) and White (n=65, 83%). The remaining clients self-identified as Black (n=8, 10%) or other race (n=3, 4%). Homelessness was reported by 6 clients (8%) at the time of the initial encounter.

The patient navigator identified a total of 1,171 needs for the 78 clients. A client could have more than one need. The most common needs of clients were 1) transportation for appointments (n=73, 94%), 2) assistance with volunteer opportunities (n=63, 81%), 3) assistance with securing long-term housing (n=60, 77%), and 4) assistance with employment (n=55, 70%). Help with obtaining identification documents such as birth certificates, state ID, etc., appropriate clothes and shoes, meals and food stamps, assistance with resume preparation and legal assistance were some of the other common needs of the clients.

Seventy clients completed the 90-day survey, and 41 (53%) were engaged with the Patient Navigator at the time of 90-day follow up. The patient navigator met multiple times with the clients, with an average of 20 meetings per client. The average number of days the clients (who completed the follow-up) engaged with the patient navigator were 73 days (10 weeks), which averages two meetings per week.

At the end of Year Four, out of the 1,171 needs (identified at the initial encounter), 1,060 (90%) needs/ services were either completed or were in process of completion. Eight clients moved out of the recovery house after 90-day follow-up and completed the discharge surveys. The Patient Navigator was able to complete 31 needs during this post 90-day period. A total of 111 (10%) needs could not be completed during the period clients lived in the recovery house. Many of the needs could not be completed because the clients moved out of the facility (n= 24, 31%), either due to not maintaining sobriety or they needed a higher level of care.

Development of Workforce Program to Support and Encourage Individuals to Become Peer Recovery Supporters (Thrive)

In the 1990's, Peer Recovery Support Services (PRSS) emerged from fields both in and out of addiction. In recent years, this engagement centered type of treatment has become increasingly important to addiction professionals (Eddie et al., 2019). The state of Ohio Department of Mental Health and Addiction Services recognizes the important role of a PRSS model and has created a certification program to train individuals to become PR supporters. Individuals in recovery walk beside individuals starting their own recovery journey, using their lived experience to help engage, connect, and facilitate linkage to both treatment and social services resources. Benefits of this type of treatment show that a PRSS can provide structured services while emotionally meeting and supporting an individual's needs; addressing a gap that historically was void in previous types of treatment models. The evaluation examined ***in what ways can workforce development and outreach increase the number of certified Peer Recovery Supporters?*** Thrive achieved all of its objectives for this activity within the last two years and helped 22 individuals pass Ohio's PR Support Certification Exam (Table 35). As one candidate noted

> *I questioned if I could live a meaningful life or find a career where I can be a productive member of my community. This internship walked me through completing the online education requirements, getting the state certification, and observing people just like me doing these jobs. I not only gained the knowledge to obtain employment in the peer support field, but I also received the confidence to perform the job better than I could have ever imagined.* - Thrive Intern

Thrive staff have also found the program rewarding,

> *We have interns that shadow elsewhere and it's their calling, you know, it's their passion. So just trying to link them up with the necessary resources and things that they want to do. I know for me personally, this working in this field, easy would never be the way to describe it, but it is worth it because I have a passion for it. Right? I want to help people like me and so to help people kind of find their calling and what they want to do has been rewarding on my end, and the external partners have helped with that.* - CCOD2A Focus Group Participant

Table 35

Short-Term and Intermediate Outcomes for Thrive Workforce Development Program from September 2021 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Enroll individuals in the Internship program	Data not previously collected	**25**	NA	NA	5	26	**Achieved**
Individuals who complete the 16-hour e-based training	Data not previously collected	**23**	NA	NA	4	26	**Achieved**
Individuals who complete the 40-hour OMHAS Training	Data not previously collected	**21**	NA	NA	4	26	**Achieved**
Individuals who pass the Ohio PR Supporter Certification Exam	Data not previously collected	**21**	NA	NA	4	22	**Achieved**
Individuals who complete the 11-week Thrive Internship	Data not previously collected	**16**	NA	NA	4	22	**Achieved**
Internship Graduates who receive a job placement	Data not previously collected	**12**	NA	NA	3	16	**Achieved**

In Year Three, Thrive enrolled 5 candidates into its internship program, 4 of whom completed the 16-hour e-based and Ohio Mental Health and Addiction Services (OMHAS) training, and completed the Ohio Peer Recovery Supporter Certification exam. Three of them obtained internship graduation job placement. In Year Four, 26 candidates were enrolled in this program, and completed the OMHAS training. Of those candidates, 22 successfully passed the Ohio Peer Recovery Supporter Certification exam, and completed the 11-week internship shadowing program. ***A total of 16 candidates received internship graduation job placement in Year Four.***

> *Our internship... the goal is to get more workforce. So more certified peer supporters… through the certification process and also have a lot of shadowing experience so they're able to shadow with all of our departments to get like a hands-on experience of all different types of peer support. And we've also recently started a lot of external shadowing, which is also peer support shadowing but also volunteer work with different resources because as a peer supporter it's super important to be knowledgeable, have the resources in the area to fully benefit and help the people we work with. So that has been a really good experience.* - CCOD2A Focus Group Participant

Overall, 19 candidates received a job placement after the completion of their internship program. The reasons reported by the agency for candidates not completing the program were transportation issues,

conflicting schedules (with their jobs), poor attendance and leaving the program in the middle due to unknown reason. The Weblink to Thrive's workforce development program: https://www.canva.com/design/DAFYHq2BsSg/cUpme9YEOGdv3JStg38rOw/view?utm_content=DAFYHq2BsSg&utm_campaign=designshare&utm_medium=link&utm_source=publishsharelink#1

Provide Community-Based Peer Recovery Services for Uninsured Individuals (Thrive)

In Year Three, Thrive received funding for a program to provide community-based PR support to uninsured clients. One of the objectives of this program was to assist these clients in becoming insured. Thrive identified clients who would benefit from community-based PRSS and PR supporters created and tracked the clients' assessment and treatment completion plans and work towards getting their clients insured. The evaluation question examined ***to what extent do Peer Recovery Supporters help to increase linkage to care for uninsured individuals in need of treatment services?*** Overall, 31 out of 334 clients (9%) moved from being uninsured to being insured in Years Three and Four (Table 36).

> *…the agencies are seeing the barriers and we're making the workarounds to take care of that… We had a whole pocket of funding for uninsured individuals. So now we can serve them. So, I think it's really taking that knowledge and talking to somebody who has you know, the resources that can help. And we've been able to serve hundreds of peers since we implemented that.* - CCOD2A Focus Group Participant

Table 36

Short-Term and Intermediate Outcomes for Thrive's Community-Based PR Services *for Uninsured Clients from September 2021 to August 2023*

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Uninsured individuals served by community-based PR Support	Data not previously collected	**353**	Data not previously collected	Data not previously collected	113[a]	221	**95% achieved**
Uninsured individuals becoming insured	Data not previously collected	**30**	Data not previously collected	Data not previously collected	1	30	**Achieved**
Clients who complete assessments for community-based peer support	Data not previously collected	**54**	Data not previously collected	Data not previously collected	19	76	**Achieved**
Clients who achieve 75% of their treatment plan	Data not previously collected	**41**	Data not previously collected	Data not previously collected	Data not previously collected	16	**39% Achieved**

[a] In the Year Three report, this number was reported as 102, 11 clients were added later to the data.

From January 2022 to August 2023, Thrive PRSS encountered 334 uninsured clients (113 in Year Three and 221 in Year Four). The average age of the clients was 47 years old (SD=15 years). The majority were non-Hispanic (n=296, 89%), White (n=206, 62%), and male (n=218, 65%). Homelessness was reported by 5 (2%) clients at the time of encounter. Different centers from the University Hospital System referred 82 (25%) clients. Other common referral sources for this program were MetroHealth Medical Center Emergency Department (n=55, 16%) and its Inpatient Department (n=35, 10%). County organizations, and behavioral health centers were other referral sources and there were 60 self-referrals (18%).

Of the 334 clients encountered by the PR supporters, 95 (28%) completed Thrive's assessment. For these 95 clients, the average number of encounters with their PR supporter was 12 (SD=19), and the mean time spent with their community PR supporters was 23 hours per client (SD=39 hours). The mean length of service each client in the program was 122 days (SD=132 days).

At the end of Year Four, the data regarding percentage of treatment plan achieved was available for 52 out of 334 uninsured clients (Table 37). About 5% (n=16) of all uninsured clients achieved 75% of their treatment plan.

Table 37

Thrive Community-Based PR Support Client Treatment Plan Achieved from January 2022 to August 2023

Percentage of treatment plan achieved	N (total=334)	Overall Percent
0%	25	7.5%
1%-49%	3	0.9%
50%-74%	8	2.4%
75%-99%	16	4.8%
100%	0	0%
Data Not Available	282	84.4%

Outreach to Service Entities Providing Immediate Services and Harm Reduction Services (Sisters of Charities)

Overview. With the closing of SVCMC, the Sisters of Charity Health System (SOC) was brought on during the second quarter of Year Four to provide linkage to care for individuals. SOC works to improve the lives of those most in need with special attention to families, women, and children living in poverty. The program

delivers crisis response and recovery continuum of care to individuals suffering from SUD or co-occurring disorders in Cuyahoga County. Staff conduct outreach and education, and expand linkage to care using on-site, community-based, and virtual visits. All clients encountered were screened for SUD, including Drug Use Disorder (DUD) and Alcohol Use Disorder, as well as co-occurring disorders and then linked to appropriate evidence-based care. The evaluation examined ***to what extent does enhanced community outreach to critical service entities increase linkage to care for individuals at risk of SUD or co-occurring disorders***. During this last year, SOC encountered 102 clients and engaged 50% of them in discussion regarding treatment services (Table 38). For many of these individuals, housing was a major barrier.

> *So, what I'm seeing is more people reaching out. Their mental health issues are almost triggered by the lack of housing. If I don't know where I'm going to live or I don't know what I'm going to eat later or feed my children...And that's like one of the number one things that I'm learning is if someone has stable housing, their worries are a little bit less or if they have a job that pays more than $8 an hour. You know, things like that. I didn't even realize that. Two cars in a household is a big deal. You have to decide who goes to work to pay the bills because we both can't because we only have one car.* - CCOD2A Focus Group Participant

> *The housing takes forever. I got a guy living in his car months and stays at a hotel when he can but we've been waiting on housing. I'm trying to get him in there.* - CCOD2A Focus Group Participant

Table 38

Year Four Outcomes for Sisters of Charity (SOC) from September 2022 to August 2023

Description	Baseline	Target	Y1 Data	Y2 Data	Y3 Data	Y4 Data
Increase the number of support personnel trained on linkage programs and services	Data not previously collected	N/A	N/A	N/A	N/A	**13**
Increase the number of patients who are initially screened (Encountered)	Data not previously collected	N/A	N/A	N/A	N/A	**102**
Increase number of patients with drug use disorder approached for a secondary screen (Engaged)	Data not previously collected	N/A	N/A	N/A	N/A	**51**
Number of patients referred for treatment services (Referred)	Data not previously collected	N/A	N/A	N/A	N/A	**28**
Number of patients with drug use disorder linked with treatment (Link)	Data not previously collected	N/A	N/A	N/A	N/A	**17**

Encounter/Engagement in Program Services. The program began in November of 2022. During that time, SOC hired 13 personnel to help with linkage efforts. The program encountered 102 patients who were brought in, referred or contacted SOC for crisis services. Of those patients encountered, 51 screened positive for DUD on a SUD/Mental Health screen and were engaged to discuss treatment services.

> *I learned that consistency and persistence is really important. Along with relationship building, you really have to work to kind of like build relationships with clients and trust, and you have to keep an open line of communication even if they miss multiple appointments and they ignore you. You just always have to be open to them coming back and just reaching out and just checking with them.*
> - CCOD2A Focus Group Participant

The drug types and drug combinations reported by patients with DUD were examined. After being referred to SOC's crisis services, patients who reported DUD were prompted to report the drug types they used. The list includes cannabis, opioids, sedatives, stimulants, amphetamines, cocaine, other drug types/unspecified drug types, hallucinogens, and inhalants. Table 39 summarizes the drug types used as reported by patients with DUD. This additional reporting can assist us in highlighting trends of polysubstance (the use of two or more drugs) among patients encountered in clinical settings. For DUD patients who sought services at SOC, more than a third self-reported the use of cannabis only (35%), followed by opioid (12%) and cocaine (12%).

Table 39

SOC Total Patients Encountered Drug/Drug Combinations Reports from September 2022 to August 2023

Self-reported Drug Use	Total No.	Percent
Cannabis only	18	35%
Opioid only	6	12%
Cocaine only	6	12%
Cannabis and Cocaine	5	10%
Cannabis and Stimulants	3	6%
Cannabis and Opioid	2	4%
Hallucinogen only	2	4%
Stimulant Only	1	2%
Other only	1	2%
Opioid and Cocaine	1	2%
Cannabis and Amphetamine	1	2%
Opioid and Stimulant	1	2%
Amphetamine and Cocaine	1	2%
Cannabis, Stimulant, and Cocaine	1	2%
Cannabis, Opioid, Stimulant, and Cocaine	1	2%
Cannabis, Sedative, Stimulant, Amphetamine, and Cocaine	1	2%
Total	51	100%

Referral to Treatment Services. Of the patients who were engaged by SOC, 28 received a referral for services. The reason provided by the majority of patients, who were not referred, was that they were not interested in treatment (35%, n=8), followed by already engaged with another treatment program (22%, n=5) or they did not need a referral for treatment (18%, n=4). Additional reasons included, having an open warrant, no time, currently in treatment, or other. For the 28 patients who were referred to treatment services, 82% (n=23) agreed with those referrals while 18% (n=5) did not agree with the referral. The most common reason why the patient did not agree to the referral was due to not being interested in treatment (n=4) followed by already engaged in a different type of treatment or program (n=1).

Linkage to Treatment. For those patients who agreed to a referral for treatment, 74% (n=17) were confirmed to be linked to treatment services. Patients were linked with various forms of treatment (Table 40). For patients referred for treatment (n=17), the most common was Outpatient Mental Health Services (29%), followed by Medication Management (24%). All SOC patients are offered transportation to treatment, and 10 patients accepted transportation.

> *I feel like we really helped link people to care… whatever level of care that they needed, whether it was residential treatment, intensive outpatient, sober living. I feel like we've really been able to*

partner with those organizations to streamline how quickly we're able to get people into services… we've been able to ...do it really quickly because we have the availability which I feel like has led to more client retention and treatment. - CCOD2A Focus Group Participant

Table 40

SOC Patient Types of Linkage to Treatment from September 2022 to August 2023

Linkage for Treatment - Clients	Count Per Client	
	Single- N	%
Multiple Referrals	2	12%
IOP/SUD	2	12%
Partial Hospitalization Program	1	6%
Outpatient Mental Health Services	5	29%
Medication Management	4	24%
Other	3	18%
Total	17	100%

Community Linkage Coordinator to Support and Encourage Individuals to Connect with Community-based Peer Support (Thrive)

Community-based peer support (CPS) is an essential component of peer recovery services and CPS is an effective way to enhance treatment outcomes and reduce the risk of relapse of substance use. Thrive PR Services referred clients encountered in the hospital ED to CPS and other social services. In Year Four, Thrive hired a community linkage coordinator who connected with their clients referred to CPS, to find out if they were linked with CPS, and if not, the reasons for not linking. The evaluation examined ***to what extent does enhanced outreach to community-based peer support increase linkage to care for individuals at risk of substance use disorder and co-occurring disorders?*** The linkage coordinator started working with the clients in October 2022 and encountered 982 clients by the end of August 2023. The average age of the clients was 44 years (SD=13 years). The majority of the clients self-identified as White (49%, n=480) or Blacks/African American (47%, n=460). The majority were male (n=644, 66%). Many of the clients had been seen by Thrive PR Services in the ED before (72%, n=710).

The average length of time from their ED encounter to linkage/outcome was 21 days (SD=23 days). The linkage coordinator made an average of 2 attempts (SD=1.3) to outreach the clients. Of the 982 clients, 135 (14%) were known to get linked with CPS. The linkage coordinator was able to contact an additional 139 (14%) who did not get linked due to not being interested at that point in time. A total of 708 clients (72%) could not be reached despite multiple attempts made by the linkage coordinator. The most common reasons these clients could not be reached were lack of contact information on file, or the phone number not working.

Strategy Seven – Providers and Health Systems Support Systems

Strategy Seven focused on support systems for providers and health systems. Activities associated with this strategy were:

- Develop an Academic Detailing (AD) program for opioid safety and overdose reduction (MetroHealth);
- Develop a toolkit to expand the use of AD and other educational resources to additional hospital and nontraditional settings (CHA);
- Expand Medication Assisted Treatment (MAT) capacity in Emergency Departments (EDs) (MetroHealth);
- Identify educational needs for hospitals and treatment centers for OUD, SUD and polysubstance use (CHA); and
- Adopt Vanderbilt University's Center for Advanced Mobile Healthcare Learning QuizTime platform as an educational resource tool for clinicians (CHA).

Agencies

Center for Health Affairs (CHA)

Cuyahoga County Board of Health (CCBH)

MetroHealth Medical Center (MetroHealth)

Develop an AD Program for Opioid Safety and Overdose Reduction and Develop a Toolkit to Expand Use of AD and Other Educational Resources to Additional Hospitals and Nontraditional Settings – MetroHealth & CHA

Overview. As part of Strategy Seven, MetroHealth and CHA collaborated to develop: (1) an AD program for opioid safety and overdose reduction; and (2) a toolkit to expand the use of AD to additional hospitals and nontraditional settings. These two activities are presented together as there was significant overlap in both the process measures and the short-term and intermediate outcomes. One of the many ways MetroHealth and CHA are addressing the current opioid crisis in Ohio is through provider education, and one type is AD. While the adoption of educational programs is relatively new, there is promising data to suggest that provider education effectively reduces the number of opioids prescribed (Kulbokas, Hanson, Smart, et al., 2021). For example, Dieujuste N, Johnson-Koenke R, Christopher M, et al. (2020) found that over a 21-month period, acute prescribing rates (among physicians working in the emergency department setting) decreased by 47% as a result of provider education. Safforee, Pickard, Crawford et al. (2020) similarly found that both the average number of opioids prescribed and the number of opioid prescriptions per clinician each month decreased as a result of AD. The evaluation question for these activities examined how ***AD increases opioid safety in prescriber practices (i.e., reduces the number of opioid prescriptions and increases referrals for alternative pain management).***

Over the course of the CCOD2A Initiative, MetroHealth's academic detailer met with providers continually focusing on opioid stewardship for all providers in primary care and the emergency department. Initially the detailer met with providers in the emergency department to educate them on the induction of buprenorphine and follow-up with a low threshold outpatient program for the treatment of Opioid Use

Disorder. In addition, in collaboration with the Controlled Substance Peer Review (CSPR) committee, a Provider Education Team was formed to identify and meet with the top 15 prescribers of opioids as a multidisciplinary team (MetroHealth's academic detailer, review nurse, data analyst), as well as the top 15 prescribers of opioids in primary care. The purpose was to review prescribing metrics, discuss laws/policies/guidelines and recommendations and educate on the tools available in the EHR for risk mitigation. In Year Four, the academic detailer also began educating all providers in targeted departments to promote opioid safety and best prescribing practices.

MetroHealth's AD program educates providers about the risks associated with excessive opioid prescribing, with the objective of mitigating problematic prescribing habits. The evaluation uncovered notable findings regarding two distinct groups of physicians: Non-Emergency Department Physicians and Emergency Department Physicians (Table 41). Among physicians who primarily serve patients outside the emergency department, there was a significant reduction in the quantity of opioid pills prescribed following completion of AD education. However, there was no corresponding decrease in the number of opioid prescriptions or combination opioid/benzodiazepine prescriptions. In contrast, for physicians exclusively practicing in the emergency department, there was a significant decline observed across multiple metrics. After completing AD education, there was a significant reduction in the number of opioid pills prescribed, a decrease in the number of opioid prescriptions, and a decline in the combination opioid/benzodiazepine prescriptions issued.

The web-based Academic Detailing toolkit was developed to increase awareness of and disseminate program development information about the practice. It is part of the Northeast Ohio Hospital Association Opioid Management Toolkit. While there was significant web traffic associated with the Academic Detailing toolkit and resources, CHA noted that it was challenging to assess the level of engagement and implementation of those programs in local hospital systems. In response CHA is working to develop mechanisms to more directly engage primary care and first line care giving staff.

> *… thinking of new ways, new innovative ways. To get education out to the clinicians so that we can increase and sort of mainstream treatment into the primary care space specifically, and to increase the MAT rates for clinicians.* - CCOD2A Focus Group Participant

Table 41

Short-Term and Intermediate Outcomes for AD Program from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR3 Data	YR4 Data	Outcome Status
Providers receiving training related to AD	Data not previously collected	**30**	31	10	1	0	**Achieved**
Providers receiving AD	Data not previously collected	**30**	0	40	121	177	**Achieved**
High-risk prescribing behaviors for medical providers who received AD	Data not previously collected	**↓10%**	0	In Progress	In Progress	Completed	**Achieved in part**
Hospitals and nontraditional systems downloading the AD toolkit	Data not previously collected	**4**	0	6	24	1	**Achieved**
Hospitals implementing AD programs	Data not previously collected	**2**	0	0	0	0	**Unable to track**
Providers receiving training on alternative pain management	Data not previously collected	**↑10%**	12	5	71	21	**Achieved**
Referrals for non-opioid medications and non-pharmacological treatments for pain management	100	**↑10%**	36	26	68	208	**Achieved**
Clinicians enrolled in the CHA Prescriber's Course	Data not previously collected	Increase	N/A	N/A	31	1	**Achieved**
Understanding efforts to provide education and skill-building among collaborating healthcare partners	Data not previously collected	Increase	N/A	N/A	2	N/A Completed in Year Three	**Achieved**
Prescriber knowledge of best practices for alternative pain management	Data not previously collected	Increase	N/A	N/A	23	N/A Completed in Year Three	**Achieved**

Create a toolkit to replicate an AD program and other educational resources for other hospital systems. Throughout the grant period, CHA's efforts have emphasized development and distribution of materials to support implementation of Academic Detailing. CHA closely partnered with MetroHealth and assumed the lead on raising awareness across hospital systems and FQHCs throughout Cuyahoga County. Multiple forms of outreach were utilized including online resources hosted on the CHA website as well as email engagement, conference presentations, personalized outreach, and innovative delivery of content using a Web-app quizzing platform.

Increase providers receiving training related to academic training. Prior to MetroHealth's AD program, MetroHealth provided training to providers relating to subject matter commonly associated with AD. These trainings were provided in addition to involvement in MetroHealth's AD program. The need for such training declined with the implementation of MetroHealth's AD program.

Increase providers receiving AD. In Year Two of the OD2A grant, MetroHealth began its AD program to educate providers on the dangers of opioid overprescribing. In Year Three, the process for referring a provider to AD initiated with a peer review, which involved the examination of charts for all providers with chronic opioid prescriptions lasting over 90 days. For providers selected for review, a total of 10 patient charts were chosen to assess their practices. In instances where deficiencies were identified, the provider education team conducted further evaluation. The top 15 providers, along with any others deemed necessary by the team, were subsequently recommended for participation in AD. All MetroHealth providers, who prescribe opioids, were eligible for peer review, except those who primarily deal with acute prescriptions, such as ED providers. To ensure comprehensive understanding and adherence to best practices, the academic detailer also conducted meetings separately with all ED providers. These sessions encompassed a range of topics, including pain treatment guidelines, Ohio's laws governing acute prescription practices, alternatives to opioids, strategies for mitigating risks associated with co-prescribing opioids and benzodiazepines, pain diagnoses, and approaches to addressing issues like lost or early prescription refills.

In Year Four there was a notable change in the provider selection process for review. In addition to the criteria established in Year Three, MetroHealth's academic detailer expanded the approach by offering AD education to entire departments through campaigns, in coordination with department leadership/Chairs. This strategic shift aimed to ensure that providers across entire departments that may have similar patient populations received the same messages to improve prescribing practices aligned with best practices in healthcare. ***During the grant a total of 338 providers received 1:1 academic detailing.***

High-risk prescribing behaviors for medical providers who received AD for Non-Emergency Department Physicians. An analysis was performed to assess the impact of AD on non-emergency physicians' prescribing behavior; i.e., to determine whether there was a reduction in opioid prescriptions,

opioid pill quantities, and opioid/benzodiazepine prescriptions after physicians completed AD. To be included in the analysis, physicians needed 13 months of Prescription Drug Monitoring Program (PDMP) data (six months before AD and six months after AD), excluding the month when AD occurred. Of the 165 physicians who completed AD, 136 had sufficient data for analysis.

Table 42 presents the results of the summary statistics for the AD analysis. For opioid prescriptions, the analysis revealed a mean difference of opioid prescriptions before and after AD, indicating an average decrease of approximately 6 opioid prescriptions. However, the paired-samples t-test showed that this difference was not statistically significant (p=0.14), suggesting that the observed changes may be due to chance.

Table 42

AD of Non-ED Prescribers Summary Statistics (n=165) from September 2020 to August 2023

	Six Months Prior to AD				Six Months After AD				T-test
	N	Mean	Median	SD	N	Mean	Median	SD	p-value
Opioid Prescriptions Written	15,482	113.8	16.5	313.6	14,656	107.7	15.5	296.2	0.1417
Opioid Pills Prescribed	1,136,653	8,357.7	839	27,542.8	1,053,128	7,743.5	752.5	26,215.6	*<0.001*
Opioid / Benzodiazepines Prescriptions Written	890	6.54	0	18.1	755	5.55	0	14.6	0.152

A subsequent paired-samples t-test examined the mean difference in the number of pills prescribed before and after AD, revealing a mean difference, indicating a reduction in opioid pill quantities by approximately 614.1. The paired-samples t-test found this difference was statistically significant ($p < .05$), indicating that the reduction in pill quantities was meaningful and likely not due to random chance. A final paired-samples t-test analyzed the mean difference in the number of opioid/benzodiazepine prescriptions before and after AD, showing a mean difference of 0.9 prescriptions. However, a paired-samples t-test indicated that this mean difference was not statistically significant (p=.98), suggesting that the observed difference before and after AD is likely the result of random chance rather than a meaningful change.

High-risk prescribing behaviors for medical providers who received AD for ED Physicians.
MetroHealth's emergency department providers were also included in the AD program, but their practice focuses on acute conditions, and ED providers do not typically prescribe opioids long-term or as frequently as non-emergency department providers. Moreover, the AD education for these providers differs from that of general or specialty practices. Similar to the evaluation of non-ED providers, an analysis was conducted

to assess the impact of AD on opioid prescriptions, opioid pill quantities, and opioid/benzodiazepine prescriptions. During the grant, 76 ED physicians completed AD education, with 70 included in this analysis. To be included in the analysis, physicians needed 13 months of Prescription Drug Monitoring Program (PDMP) data (six months before AD and six months after AD), excluding the month when AD occurred.

Table 43 presents descriptive statistics for opioid prescriptions, opioid/benzodiazepine prescriptions, and the number of opioid pills prescribed for three time periods: the six months before AD, the six months after AD, and the full 12-month period. Overall, there was a decrease in the number of opioid prescriptions, opioid pills, and opioid/benzodiazepine prescriptions issued after receiving AD.

Table 43

AD of ED Prescriber Summary Statistics (n=70) from September 2020 to August 2023

	Six Months Prior to AD				Six Months After AD				T-test
	N	Mean	Median	SD	N	Mean	Median	SD	p-value
Opioid Prescriptions Written	1,128	16.11	11.5	15.2	873	12.4	9	13.7	*< 0.01*
Opioid Pills Prescribed	13,928	198.9	147	190.8	10,093	144.18	108	142.6	*<0.01*
Opioid / Benzodiazepines Prescriptions Written	23	0.32	0	0.63	4	0.057	0	0.23	*<0.01*

Table 43 also displays the results of the paired-samples t-test for each of the three items. First, examining the difference in the number of opioid prescriptions written before and after completing AD, there was a mean difference of about 3.6 opioid prescriptions. The paired-samples t-test indicated that this decrease was statistically significant, suggesting that it was unlikely to occur by random chance alone. Next, whether there was a reduction in opioid pill quantities after completing AD was assessed. Before AD, an average of 199 opioid pills were prescribed, which decreased to 144 pills after AD, a mean difference of 55 pills. The paired-samples t-test also showed that this decrease was statistically significant. Finally, the average number of opioid/benzodiazepine prescriptions written post-AD was examined. Prior to AD, the average number was approximately 0.329, which decreased to about 0.057 prescriptions post-AD education. Paired-samples t-tests indicated this average decrease of about 0.272 opioid/benzodiazepine prescriptions was statistically significant.

Although the focus of this evaluation for AD is primarily on aggregate-level data, it is also important to note the impactful changes that the OD2A grant brings to individuals. With respect to academic detailing, the MetroHealth academic detailer noted that this program has allowed for the:

> *integration of the CSA [Controlled Substance Use Agreement] into the EHR with the use of the mouse to sign during the patient visit. Feedback has been positive with this update, especially for those who use the agreements often.* MetroHealth Academic Detailer

> *Accessing the opioid risk tool with a simple dot phrase that opens a smart form so that the provider can document an assessment was made prior to initiating opioids*" and that "[*m*]*oving from the use of a smart phrase to document that the PDMP was reviewed to integrating attestation and required documentation when needed into the workflow.* MetroHealth Academic Detailer

Hospitals and Nontraditional Systems Downloading the AD Toolkit and Hospitals Implementing AD Programs. While there was significant Web traffic associated with the Academic Detailing toolkit and resources, CHA noted that it was challenging to assess the level of engagement and implementation of those programs in local hospital systems. Further, CHA wanted to develop mechanisms to more directly engage primary care and first line caregiving staff. In the last few years CHA recorded 25 downloads of the AD program implementation guide by hospitals/agencies from their website. Attempts to capture detailed end-user information for those who downloaded CHA Toolkit resources have been unsuccessful. Placement of resources behind a sign-up page to engage users did not result in collection of contact information, and therefore that process was discontinued at the end of Year Three. CHA also had meetings with representatives from the Ohio Dentists Association (ODA) regarding nontraditional provider education, specifically expanded opioid education for dental students in Ohio. However, barriers existed for moving forward on this activity.

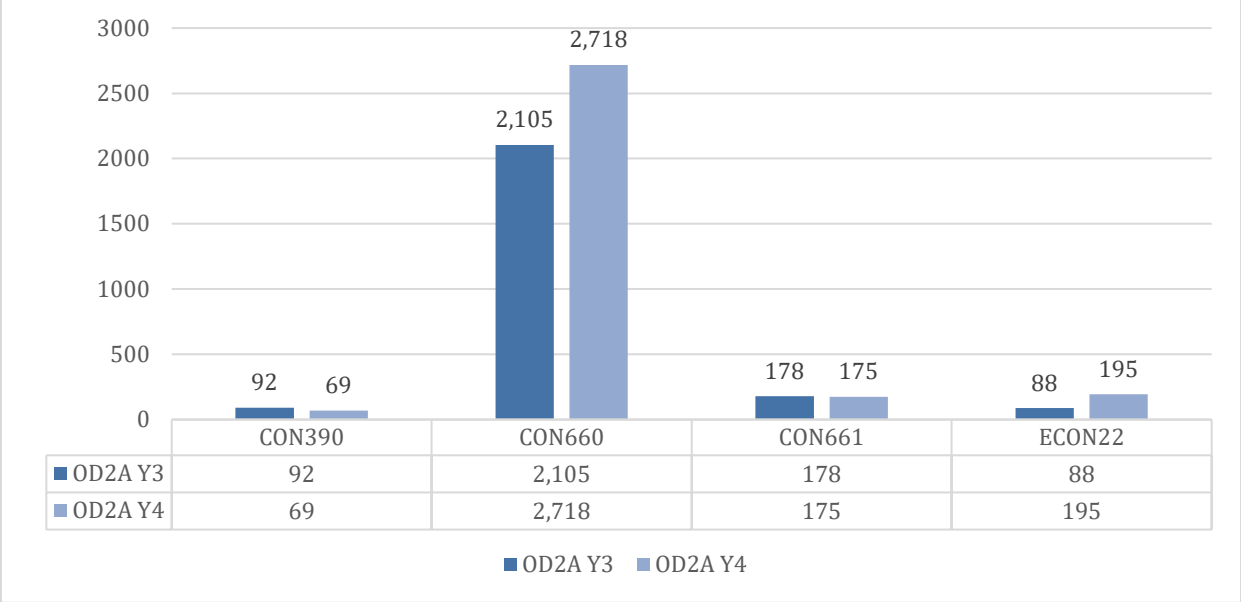
Increase use of non-opioid medications and non-pharmacological treatments for pain management. Through this project, MetroHealth sought to identify alternative treatments to opioid prescribing in the ED. Two possible treatments that emerged in Year One were Nitrous Oxide and non-narcotic pain blockers for acute procedures in the ED. In Year Four, 21 providers from MetroHealth attended training on alternative pain management***, a total of 109 providers during this Initiative participated in the training. In this last year 208 clients were referred to alternative pain management, a total of 338 referrals during the grant.***

Use of Consults. Physicians at MetroHealth also have the ability to request a consultation of a patient chart to other departments or specialties. MetroHealth encourages its providers to explore alternatives to opioids for treating chronic pain, such as consultations with other services. These consultations, including CON390 (referral to a pain pharmacist for recommendations), CON660 (referral to physical medicine and rehabilitation), CON661 (primary care opioid management), and ECON22 (referral to a pharmacist to

address specific medication-related questions), can help patients find non-opioid solutions for chronic pain and associated issues. Data were available during the last two years of the grant on consults. As shown in Figure 24, there were a total of 5,620 consults conducted in these two years of the grant, with 2,463 consults in Year Three and 3,157 consults in Year Three. While CON390 and CON661 experienced a slight decrease, both CON660 and ECON22 saw an increase in usage.

Figure 24

Consults for Providers Receiving AD from September 2020 to August 2023



Understanding among collaborating healthcare partners of existing efforts to provide education and skill-building for clinicians. During Year Three, MetroHealth and CHA partnered to develop and deliver a presentation covering all aspects of the AD program as implemented by MetroHealth. In addition, the presentation reviewed the availability of training and technical assistance through CHA and MetroHealth to assist organizations in developing and implementing AD in their agencies. Twenty-five (25) clinicians viewed the presentation, also referred to as "BrightTALK," and two clinicians completed a follow-up survey, an 8% response rate. When asked how likely they were to implement an AD program in their organization, they responded "Likely" and "Very Likely."

Prescriber knowledge of best practices for alternative pain management. During Year Three, CHA developed and launched a Prescribing Clinicians Course as part of their educational portal. The course consists of four modules. Thirty-one clinicians took the course and 23 completed the associated survey, a response rate of 74%. Ninety-one percent (91%) of the respondents either agreed or strongly agreed that

the information presented in that course was relevant to their work. In Year Four, only one provider completed the course.

Expand MAT capacity in ED – MetroHealth

Overview. Through education and training, MetroHealth sought to increase the number of medical providers in the ED with a Drug Enforcement Administration (DEA) waiver. At the start of the grant, a provider was required to receive training on MAT to be eligible for a DEA Waiver. Recently federal law changed this requirement. There is no longer a requirement to submit a waiver. All practitioners who have a current DEA registration that includes Schedule III authority can now prescribe buprenorphine. Providers can refer individuals in need of treatment services to MAT. During Year Two, MetroHealth developed and distributed an ED MAT guide for provider education/reference, as well as a Teams site with ED MAT resources for providers. MetroHealth also incorporated treatment for opioid, alcohol and nicotine addiction into its MAT ED protocol. MetroHealth achieved most of its objectives for this activity; one was no longer relevant due to changes in federal law removing the requirement for obtaining a DEA waiver. During the grant, MetroHealth provided education and training to providers on MAT resulting in a large increase in the number of clients referred and linked with MAT (Table 44).

Table 44

Short-Term and Intermediate Outcomes for ED MAT Referrals from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Providers receiving training on MAT	6	**↑10%**	25	67	77	58	**Achieved**
Providers with a DEA waiver	70	**↑10%**	25	0	0	N/A	**In December of 2022, providers were no longer required to obtain an X - wavier**
Clients linked to MAT	90	**↑10%**	89	72	60	575	**Achieved**

Increase the number of providers receiving training on MAT and a DEA waiver. A total of 227 providers received training on MAT. With the change in federal law in the fourth year of the grant, providers are no longer required to submit a DEA Waiver.

Increase the number of clients linked to MAT. MetroHealth continued to refer clients to MAT from the ED. In Year One, there were 89 clients linked to MAT. This decreased to 72 in Year Two, and to 60 clients in Year Three. ***In Year Four there were 575 clients linked to MAT. MetroHealth far exceeded its baseline target of 90.***

I know, our education team is trying to educate and get as many providers as possible comfortable with providing MAT, whereas previously, a lot of folks were able to kind of hide behind the X-waiver. Now that's no longer an option… we're really trying to make suboxone not so scary for prescribers. So, I know our team... are being trained to be diligent about soothing any fears that prescribers have gone to jail about getting people started. So that's hopefully a trend that will continue to work in our favor. Because it's just the more that are out there, particularly in the incarcerated population, the better the outcomes they have, because it's just such a higher risk of overdose when folks leave jail...So hopefully you know in the coming months or the coming years, we can see some really landslide positive effects from the removal of that policy. - CCOD2A Focus Group Participant

Identify Educational Needs for Hospitals and Treatment Centers relating to Treatment for OUD, SUD and Polysubstance Use – CHA

CHA focused on a qualitative data collection and analysis approach, based on key informant stakeholders from throughout their member community, to identify training needs and gaps.

Overview. The mission of The Center for Health Affairs (CHA) includes focusing efforts on areas that benefit from a regional approach. As the convener of the Northeast Ohio Hospital Opioid Consortium, CHA works to create educational programs and resources for nurses and frontline staff, and high-level providers such as physicians, advanced practice nurses and physician assistants. The evaluation question associated with this activity was to identify ***what resources and educational materials would assist hospitals and treatment centers in improving treatment for individuals with opioid use disorder/substance use disorder?*** CHA's work on CCOD2A identified significant gaps in education relative to substance use disorder (SUD) treatment with a primary focus on opioid use disorders (OUD) in Cuyahoga County. CHA achieved all of its objectives for this activity. CHA proactively sought out information from key stakeholders to identify solutions to address these gaps (Table 45). Their report "Clinical Opioid Education Needs Assessment" identified eight key findings ranging from the importance of peer-to-peer education, to the need for practical information on creating and implementing medications for opioid use disorders (MOUD) programs to enable and encourage more facilities to establish treatment protocols. In response, CHA created the *Igniting Compassion* documentary which focuses on medical stigma around substance use and encourages critical conversations and creative solutions needed to mitigate the ongoing epidemic. Since its debut there have been over 3,000 views of the documentary.

The stigma, it does relate so much to personal experience with substance use disorders, family, friends, loved ones and to some of the things that we don't know about the disease process and things like that. - CCOD2A Focus Group Participant

Table 45

Short-Term and Intermediate Outcomes for Hospital and Treatment Center Educational Needs from September 2021 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR3 Data	YR4 Data	Outcome Status
Focus Groups/Key Informant Interviews	N/A	**N/A**	Data not previously collected	Data not previously collected	22	N/A	**Achieved**
Organizations Participating in Focus Groups/Key Informant	N/A	**16**	Data not previously collected	Data not previously collected	16	N/A	**Achieved**
Identify organizational needs to enhance treatment services for individuals with OUD/SUD	N/A	**N/A**	Data not previously collected	Data not previously collected	In progress	Completed	**Achieved**
Needs met for organizations to enhance treatment services for individuals with OUD/SUD.	N/A	**N/A**	Data not previously collected	Data not previously collected	In progress	*Igniting Compassion* Documentary	**Achieved**

Between April and July 2022, CHA conducted 22 key stakeholder interviews across 16 organizations to identify current challenges in treating patients with opioid and polysubstance use disorders, existing educational opportunities, and gaps in related clinical training. Interviewees included doctors, social workers, nurses, and clinicians who directly treat people who use drugs, individuals who manage direct service providers, a periodontist, and people who oversee the provision of mental health and substance services in Cuyahoga County. Their report "Clinical Opioid Education Needs Assessment" identified eight key findings ranging from the importance of peer-to-peer education to the need for practical information on creating and implementing MOUD programs to enable and encourage more facilities to establish treatment protocols. The full report can be found at: https://www.neohospitals.org/thecenterforhealthaffairs/mediacenter/newsreleases/2023/may/The-Center-for-Health-Affairs-Releases-Clinical-Opioid-Education-Needs-Assessment

> *We're able to navigate the relationships between the various types of stakeholders and organizations and then bring voices together to actually support one another's work. - CCOD2A Focus Group Participant*

In response to findings from the Clinical Opioid Education Needs Assessment, the *Igniting Compassion* documentary was filmed and produced in Cleveland; it premiered at CHA on July 20 with 60 people in attendance. The film seeks to dismantle medical stigma around substance use and encourages critical conversations and creative solutions needed to mitigate the ongoing epidemic. It is told through the perspectives of physicians, nurses, people in recovery, and family members. It is intended that *Igniting*

Compassion will be used as an educational tool to encourage the treatment of substance use disorders by anyone in the clinical setting. The documentary is about 33-minutes long and is linked at https://www.youtube.com/watch?v=TEcd5fOVdmY and its original news release is linked here: https://www.neohospitals.org/thecenterforhealthaffairs/mediacenter/newsreleases/2023/may/The-Centers-Documentary-Humanizes-the-Opioid-Crisis-Dismantles-Stigma-Surrounding-Addiction. CHA staff noted the video was well received by those in attendance.

Since its debut there have been over 3,000 views of the documentary. Work continues on documentary promotion and furthering topics and resources around compassion fatigue, burnout, active listening, MOUD initiation and protocols, SUD treatment pathways, etc. The film has been shared as a resource for Cleveland State University online SUD counseling courses and with Ohio Northern Pharmacy School students and organizations, included on the IPRO QIN-QIO learning platform and resource library, added to the ADAMHSBCC newsletter, and shared via targeted email campaigns, Facebook ads, and LinkedIn ads.

For the email campaigns, 326,151 emails were sent with an open rate of 38.3% and 144,124 distinct opens. The *Igniting Compassion* email campaign initially encompassed local CHA members, stakeholders, and OD2A agencies and was later sent broadly to physicians, dentists, APRNs, RNs, LPNs, and ODH facilities across Ohio. Additional campaigns were sent to all registrants of the Ohio Rural Health Association conference, area universities, and industry contacts regionally.

Unfortunately, the teaser video created for YouTube promotion was denied – even after an appeal – because it contained the word fentanyl. CHA is a well-established nonprofit health advocacy organization that should be able to use prescription drug terms in an educational film and receive approval for the related ads and this is a detrimental barrier to the advertising efforts undertaken.

Vanderbilt University Center for Advanced Mobile Healthcare Learning QuizTime Platform as an Educational Resource Tool – CHA

During Year Three, CHA implemented QuizTime as an innovative framework to engage clinicians and expand its use in Year Four. Built by the Vanderbilt University Center for Advanced Mobile Healthcare Learning (CAMHL), QuizTime is an online learning system consisting of highly relevant and practical content delivered on a regular schedule (for example, one question a day, or per week, etc.) using a Web-app quizzing platform. The Tennessee Department of Health/ONE Tennessee, using the CAMHL platform has developed several opioid education modules that were adapted for the CHA educational portal, “NEO Opioid Overdose Prevention Education” module and it was launched May of 2022.

The evaluation question associated with this activity was to identify ***in what ways does Advanced Mobile Healthcare Learning improve prescribing knowledge for providers, i.e., reduce opioid prescribing and increase referrals for pain management?*** CHA also closely partnered with MetroHealth and took the

lead on raising awareness across hospital systems and FQHCs throughout Cuyahoga County using multiple forms of outreach that included online resources hosted on the CHA website, as well as email engagement, conference presentations, personalized outreach, and innovative delivery of content using the Web-app quizzing platform (Table 46).

Table 46

Short-Term and Intermediate Outcomes for QuizTime from September 2021 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR3 Data	YR 4 Data	Outcome Status
Clinicians Participating in QuizTime	N/A	300	Data not previously collected	Data not previously collected	17	108	42% achieved
Clinicians Completing at least 80% of QuizTime Model	N/A	250	Data not previously collected	Data not previously collected	17	56	29% achieved
Clinicians Who Successfully Complete QuizTime	N/A	200	Data not previously collected	Data not previously collected	12	1	6% achieved

From September 2022 through August 2023, QuizTime, the academic detailing and peer review toolkits, and the entire opioid management toolkit were promoted on two social media platforms, at two conferences (Changing the Tide of the Opioid Crisis on May 1 in Cleveland and the Ohio Rural Health Association conference on August 3-4 in Ada, Ohio), in event programs, and with various meetings and groups. Across social media, QuizTime, the Toolkits and other learning platforms received 3,099 impressions, 100 likes, 13 clicks, and 8 shares.

During Year Four, 108 people engaged with QuizTime, with 56 of them completing at least 80% of the questions. CHA was not able to achieve its objectives associated with clinician participation in QuizTime. Planning discussions occurred to create new QuizTime modules in partnership with Vanderbilt University Medical Center to address stigma, bias, compassion fatigue, and clinician self-care. However, once the CAMHL leadership and administrative teams transitioned away from CAMHL, it became clear that creating a new QuizTime course within the Year Four timeframe would not be possible. Instead, the *Igniting Compassion* documentary served as a better platform to respond to the stigma, bias, and compassion fatigue identified in the education needs assessment interviews, and outreach continues to use the film for prescriber education.

> *Because I don't think that the X waiver was the barrier. What we're hearing from clinicians and even clinicians who were X waivered, they still weren't prescribing because there's a reticence and so doing outreach and really understanding what the barriers are from the clinicians perspective*

rather than taking sort of these anecdotal, 'Oh, they don't want to see those patients.' That's actually not really what we're hearing from clinicians. What we're hearing is they're worried about complexity of the patients, that they don't have the appropriate training. They're worried that they're not going to have time in their patient panels. They're worried about a lot of things but it's not necessarily related to I don't want to take care of those patients. It's a different kind of barrier that's, that's preventing them from wanting to prescribe …" - CCOD2A Focus Group Participant

Strategy Eight – Partnerships with Public Safety and First Responders

Strategy Eight focused on developing and enhancing partnerships across public safety and first responders who respond to calls for service associated with opioid overdoses. The activities within this strategy were:

- Enhance nonfatal overdose incident data collection, utilization, and dissemination (CDP);
- Expand the Cleveland Division of Police (CDP) Computer Aided Dispatch (CAD) System to improve observation and recording of nonfatal data by crime analyst/case information (CDP);
- Implement outreach to nonfatal overdose victims (MetroHealth);
- Expand Police-Assisted Referral (PAR) card - now referred to as "Link2Care Card" - used in Heroin Involved Death Investigation (HIDI) detectives and others (CCBH);
- Enhance "compassion fatigue" awareness and training for HIDI detectives/law enforcement (LE)/first responders and secondary responders (Begun Center);
- Cross-training to public safety forces to raise awareness of new partnerships, programs and challenges (including Adverse Childhood Experiences (ACES) related risk factors) regarding the local opioid epidemic (ADAMHSBCC); and
- Peer Support services to first responders and frontline workers (Thrive).

Agencies

Alcohol Drug Addictions and Mental Health Services Board (ADAMHSBCC)

The Begun Center for Violence Prevention Research & Education (Begun Center)

Cleveland Division of Police (CDP)

Cuyahoga County Board of Health (CCBH)

Thrive Behavioral Health Center (Thrive)

Enhance Nonfatal Overdose Incident Data Collection, Utilization, and Dissemination & Expand CDP CAD System to Improve Observation and Recording of Nonfatal data

Overview. The evaluation question tied to this activity was ***how can law enforcement improve the tracking and notification of nonfatal opioid-related overdose incidents.*** Law enforcement data regarding nonfatal overdoses provides a wealth of information, including identification of where overdoses are occurring in Cleveland. Although this activity was not continued in Year Four, the Cleveland Division of Police (CDP) was able to achieve its objectives.

The Begun Center worked closely with CCBH, CDP, and the Cuyahoga County Prosecutor's Office (CCPO) to identify incident level data sources to inform a wide range of surveillance products regarding nonfatal overdose incidents as well as support MetroHealth Quick Response Team (QRT) outreach. The Begun Center and CCBH also engaged Cleveland Emergency Medical Services (CEMS) to identify sharing

and dissemination of their nonfatal response data (Table 47). Significant strides were made across these agencies in combining and sharing data to better inform surveillance and response to nonfatal overdoses, including the hiring of a CDP analyst who worked across data sets and agencies to facilitate analysis and dissemination. By combining information from multiple data sources (CDP, CEMS, and CCPO), the CDP analyst was able to identify 593 nonfatal opioid or polysubstance incidents from March 2022 to August 2022 out of 1,328 calls for services that were initially categorized as "sudden illness". These efforts helped support a wide range of responses by partner agencies, including MetroHealth's Quick Response Team (QRT) identifying individuals for outreach. Although the CDP analyst position was not sustained, there continues to be support from the CCPO and CEMS to provide information to the QRT on suspected overdoses that have occurred.

Table 47

Short-Term and Intermediate Outcomes for Overdose Incident Data Collection and Recording from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Improve coordination of Public Health and Public Safety Efforts with organizations for sharing and integration of nonfatal overdose	0	**2**	0	2	2	N/A	**Achieved**
Improve use of shared data to inform collaborative public health/public safety prevention and response activities through number of data systems being shared and input of nonfatal overdose into CAD	0	**2**	0	CDP CEMS CCMEO	CDP CEMS CCMEO	N/A	**Achieved**
Increase data reports of nonfatal overdose data available from LE	0	**↑10%**	0	1	593	517	**Achieved**

Enhancing Nonfatal Overdose Incident Data Information. The CDP hired an analyst position for placement in the Northeast Ohio Regional Fusion Center (NEORFC) in Year Three to enhance and facilitate the synthesis of various data sources focused on nonfatal opioid overdose incidents. The analyst served as a critical linkage between overdose incident data identified by the CCPO Crime Strategies Unit (CSU) analysts and the MetroHealth QRT. The CDP Analyst served as the primary conduit assessing multiple sources of overdose-related information, including disseminating information to the MetroHealth' s QRT for further assessment and action. The CDP Analyst reviewed information provided by the CCPO CSU, as well as querying additional CDP data sources and reached out to stakeholders collected data on opioid-related incidents.

The CDP Analyst gained direct access to the CDP Dispatch program "Intergraph" allowing for full access to calls entered by dispatch. Most often initial incident calls were categorized as 'sudden illness' in the CDP Computer-Aided Dispatch (CAD) system. Having direct access to this information was critical to facilitating assessment of the initial calls to identify those that were opioid and/or polysubstance-related. The CDP Analyst also established an ODMAP account specifically for the NEORFC which facilitated the establishment of MOUs with surrounding cities to obtain access to their ODMAP data and allowed the CDP Analyst a higher level of permission and access to ODMAP information. Cleveland EMS began providing information to the CDP Analyst including a weekly report of patients to whom they administered Naloxone. Ohio EMS also was identified as a potential source of information for opioid-related incidents. Information can be requested quarterly or bi-annually to support overall trend analysis for overdose incidents across the county.

Improve observation and recording of nonfatal data by CDP Analyst and case information. From March through August 2022, the CDP dispatch system examined 1,328 calls for service that were initially categorized as "sudden illness." Typically, this incident category is used to capture suspected drug overdose calls. During that same time period, the CDP Analyst identified 593 nonfatal opioid or polysubstance incidents, of which 119 (20%) were not initially identified as "sudden illness" incidents in the CAD system. The CDP Analyst included reviews of incidents classified as: Crisis Intervention (CIT), Violation of State Drug Laws (VSDL), Injury to Person, Operating a Vehicle Impaired (OVI), and Drug Activity. It was during these additional reviews that the CDP Analyst identified incidents for further review to determine if there was an indication of a nonfatal opioid or polysubstance element to the incident. The information associated with these incidents was then provided to the MetroHealth QRT on a weekly basis to support their outreach efforts.

Implement Outreach to Victims of Nonfatal Overdose – Begun, CDP and MetroHealth

Overview. MetroHealth served as the agency to provide QRT services under this activity in Cleveland, Ohio. The QRT team identified and attempted to engage clients who experienced a nonfatal overdose, as well as their families, within their residential settings, beyond clinical or medical environments. The evaluation examined how ***Cuyahoga County could improve and enhance partnerships with public safety and first responders in order to reduce opioid overdose-related deaths and nonfatal incidents.*** The QRT received guidance from an advisory board. The MetroHealth QRT Advisory Board included representatives from MetroHealth, Drug Enforcement Agency (DEA), the Begun Center, Cuyahoga County Sheriff Department (CCSD), NEORFC, and CCBH.

During the grant, the MetroHealth QRT significantly increased its outreach efforts, with a noteworthy resulting increase in the number of individuals outreached each year (Table 48). These individuals included clients with a lived experience as well as their family members and friends. While there was a slight

decrease during the grant in the QRT's ability to engage, refer, and link clients to care, the QRT realized their services were more directed at harm reduction rather than linkage to treatment. In addition to their efforts to connect clients to care, the QRT found they had more success providing harm reduction services, including resource material, Narcan kits and fentanyl test strips, averaging 85% of their efforts. A valuable lesson the MetroHealth QRT team learned during this grant was the importance of connecting with families. Although the QRT had difficulty connecting with clients, family members and friends showed a willingness to talk with the QRT and receive resource information. Family members also appeared motivated to assist helping to facilitate clients' linkage to care.

> *As we've kind of learned I think initially the plan behind having quick response teams was to get people linked to treatment. And really over the last year or so, we've noticed that it's really kind of become more of community-based harm reduction because the people we're coming into contact with: 1) we don't have the data or the ability to follow up necessarily to know if they've made it into treatment if they don't come through internally our own system, and 2) people just aren't, when you're at their door, ready right then and there for treatment. So much of it has been just about getting test strips out, Narcan out, resources, information than really trying to count people who have actually made it through treatment and been successful.* - CCOD2A Focus Group Participant

Table 48

Short-Term and Intermediate Outcomes for Outreach to Clients of Nonfatal Overdose from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Improve our understanding of the processes to link nonfatal overdose clients to care by first responders/case workers	0	**2**	0	5	5	N/A	**Achieved**
Increase number of clients, family members or other who were contacted by MetroHealth QRT (Encounter)	0	**↑10%**	0	225	276	222	**Achieved**
Increase number of clients who agree to talk MetroHealth QRT (Engage)	0	**↑10%**	0	60	68	51	**Achieved, although slight decrease the final year**
Increase number of clients referred for treatment by MetroHealth QRT (Referred)	0	**300**	0	46	45	24	**Not Achieved**
Increase number of clients linked with treatment after QRT referral	0	**↑10%**	0	7	14	3	**Achieved, although a decrease the final year**

Improve our understanding of processes to link nonfatal overdose clients to care:
QRT outreach was determined from data identified by the CCPO CSU Crime Analysts. The review by CCPO was the first part of a three-step process that resulted in the QRT's contact with overdose clients. First, the CCPO Analysts conducted daily weekday queries of incidents identified by the CDP as 'sudden illness'. 'Sudden illness' reports from CDP included a broad range of incident characteristics beyond opioid-related incidents. CCPO used this reporting category as an initial screening mechanism to identify potentially relevant reports. Second, that information was passed to the CCSD Crime Analyst located at the NEORFC, who then conducted additional address checks, as well as checking with a CCSD Sergeant to ensure that there were no active criminal investigations occurring for any incidents forwarded to MetroHealth QRT. Third, MetroHealth QRT reviewed the information provided by the CCSD Analyst to identify and prioritize opioid-related incidents and then attempted to proactively engage those clients in their residential setting. MetroHealth also worked with CEMS to receive their identified data from opioid overdose incidents.

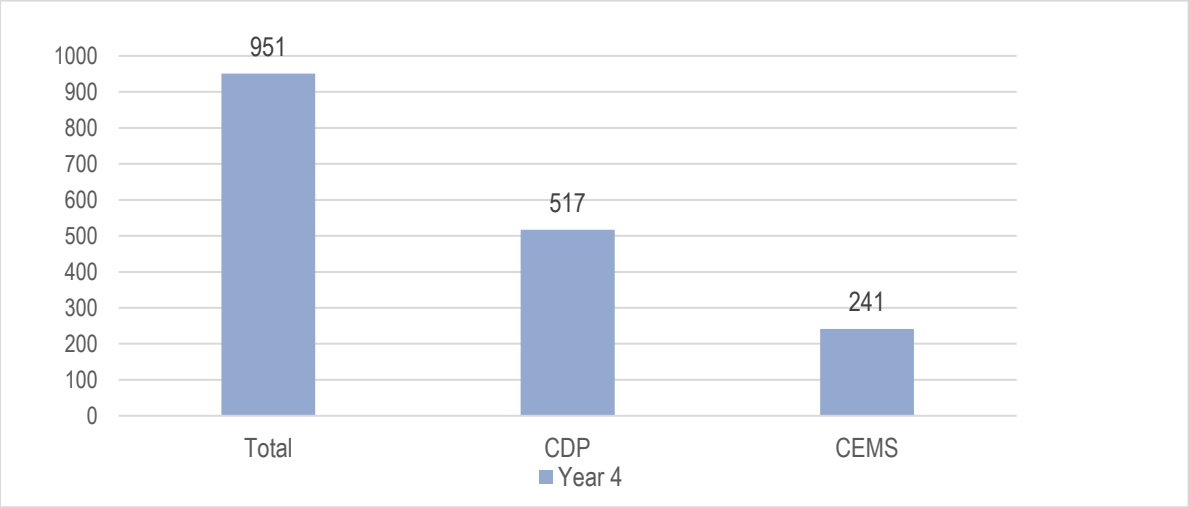
Follow up with clients was not initially part of the QRT procedures. However, as a result of interactions with families and the clients, it became apparent to the QRT that a 90-day follow up was an important element to add to their operating procedures. MetroHealth staff also noted that they were seeing people on the QRT overdose list who were also showing up in the ExAM program from the jail. MetroHealth QRT started coordinating their data with the ExAM program for individuals that appear in both efforts.

Encounter/Engagement in Program Services

During Year Four, several adjustments were made to the data collection for this activity to more accurately describe and capture the unique nature of MetroHealth QRT activities. For example, categorization of whether the incident report came from CDP data or CEMS (Figure 27) helped us to illuminate how both police and EMS data are needed to fully understand the scope of the overdose epidemic in Cleveland. An encounter by the QRT included the number of clients, family members, partners, and roommates with whom QRT members interacted. CDP and CEMS provided data for the 951 outreach attempts that were completed from September 2022 through August 2023 (Figure 25).

Figure 25

MetroHealth QRT Contacts by Agency from September 2022 through August 2023



The average age of these clients was 42 years (SD: 13). The largest percentage of the clients were male (46%). Race was predominately White (42%), 23% of the clients were Black/African American, and race was unknown or not reported for 35% of the clients. ***During the grant the QRT outreached a total of 1,845 individuals, which included clients and their family and friends.***

Although several outreach attempts were made for each client, MetroHealth's QRT had difficulty connecting with clients in their residential setting[8]. There was a delay in receiving overdose incident data, taking an average of 14 days (SD= 10 days) from overdose occurrence to client interaction. Based on zip code analysis, it was evident that in areas with high overdose rates clients were widely distributed.

> *… the QRT team believes that interacting with opioid clients within the first 24 hours could lead to better outcomes. … where people live and where people overdose are very, very different. … just in terms of thinking about outreach and harm reduction and the benefit of having, you know, Eastside location or outreach, but in reality there are a lot of people that do not live in the zip codes where we see those high overdoses, they really are more spread out than I think people would imagine.* - CCOD2A Focus Group Participant

[8] Although not part of the CCOD2A grant, additional MetroHealth QRT's working in Parma and the Westshore Enforcement Bureau, which are also located in Cuyahoga County, had more success at making contact with clients.

Reaching out to individuals at the incident address was also found to be more effective than trying to contact clients at their listed residence address. The residential addresses in the incident information were not always up-to-date or reliable. It is possible that the residence location provided in the police report was obtained from an Ohio Bureau of Motor Vehicle (BMV) query and therefore outdated.

> *And so, I think there was a lot of frustration, and there still is when, there's days I go out for those four hours and we might get in front of three people and two of them tell us it's the wrong address. There's a lot of barriers to this work that we all do. And I think keeping in contact and getting in contact with people, is really one of the hardest things...It's just the biggest barrier to kind of, you know, keeping people within this this safety net and within the hospital and trying to keep you know, a set of eyes on them and keep that conversation going. It's just frustrating, and it's a huge, huge barrier to all the work that we do.* - CCOD2A Focus Group Participant

During Year Four, the QRT connected with 222 clients or their family members or friends (23% of all outreach attempts). Of the 222 successful encounters, 85 were with clients (38%). Although initially the focus was to capture client specific data, as the QRT began operating, it became clear that engagement with individuals closely associated with the client could also be an important aspect of the work. In addition to contact with clients, the QRT engaged 137 family members or friends.

> *I think that some lessons are that you know, that when we build rapport with folks and we develop relationships, they're a lot more likely to follow up with us and when even if we are getting contacted by moms and grandmas...whoever the family may be, that is useful to the client, even if they are resistant in the moment.* - CCOD2A Focus Group Participant

Table 49 outlines the reasons why connections were unable to be made. Many individuals did not answer their doors (n=213, 29%) or the individuals referred to QRT had the wrong address listed (15%, n=109).

Table 49

Reasons why QRT could not contact referral *from September 2022 to August 2023*

Reasons why not contacted	Frequency	Percent
No contact/No Answer	213	29%
Wrong address	109	15%
Could not access building	6	1%
Other	32	4%
QRT did not specify	123	17%
Unknown/Missing	246	34%
Total	729	100%

Of the clients encountered, 60% engaged in discussions with members of the QRT (n=51). Of the clients engaged by the QRT, 47% were given a referral for treatment (n=24).

> *… we've had a lot of positive reports that the drugs are laced with the xylazine. So that's kind of new barrier that we have to work around and with wound care and stuff, getting people you know, encouraging them to go to the hospital and have their wounds treated because the xylazine makes them that much worse.* - CCOD2A Focus Group Participant

Linkage to Treatment

Of the 24 clients with whom the MetroHealth QRT engaged and left materials in Year Four, 12% (n=3) of those clients reported linkages to care. For MetroHealth QRT, linkage to care was defined as the number of clients who made an appointment for community treatment and continued receiving treatment. The MetroHealth QRT process also included a 90-day follow up with clients who had received materials, and it was during that 90 day follow up activity that MetroHealth QRT learned of 2 of the clients who had been linked to care. During the project MetroHealth, QRT identified 24 clients linking to treatment. As stated earlier it was difficult for MetroHealth's QRT to connect with clients given the time delay of receiving information regarding the nonfatal overdose and the team is limited in the amount of time they go out each week.

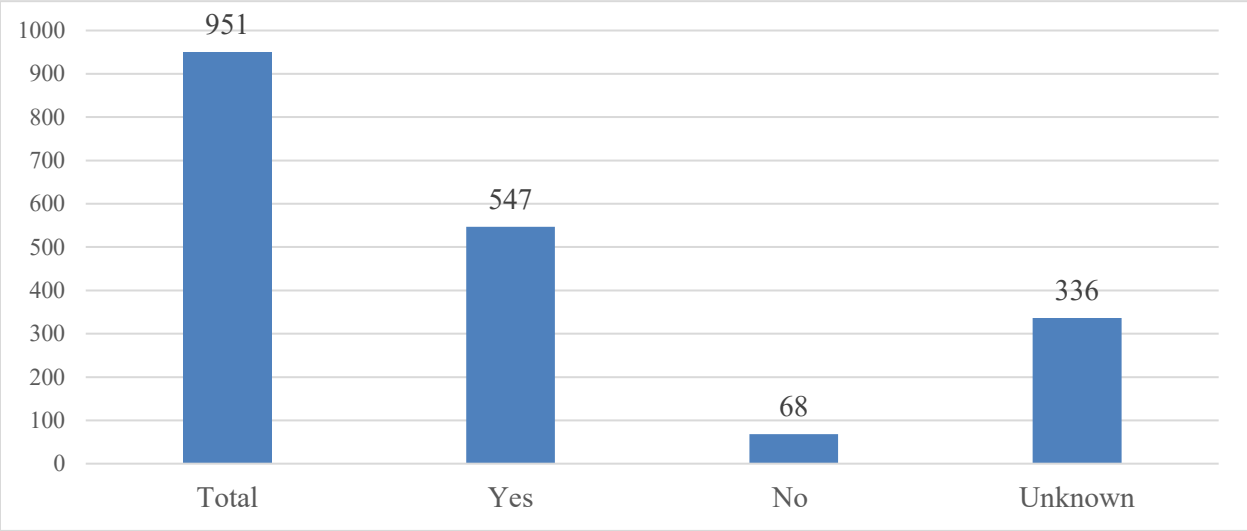
> *Honestly. I mean, we're used to hearing about, you know, people being incarcerated or people overdosing or people dying. I think one of the happy surprises are that when people come back and tell us they've been sober for a long time and want to thank us. Like last week, some kid said, I just wanted to thank you so much for the information your team provided. I've been sober for eight months. One of our coworkers saw just another one of our clients at an AAA meeting, and we hadn't seen her, so we were worried whether or not she was okay, and she's been sober for four months. So those are the happy surprises.* - CCOD2A Focus Group Participant

Narcan Administered

The majority of the individuals contacted by CEMS and CDP (n=951) following a suspected overdose had Narcan administered to them (82%). Figure 26 shows that 58% (n=547) of individuals were transported to the hospital.

Figure 26

Individuals With a Suspected Overdose Transportation to Hospital from September 2022 through August 2023



Expand PAR Card, Enhance Self Care (Compassion Fatigue) Awareness and Training, Cross Train Public Safety Forces to Raise Awareness of New Partnerships, Programs, and Challenges Regarding the Local Opioid Epidemic

Overview. Several activities associated with the evaluation examined ***how Cuyahoga County could improve and enhance partnerships with public safety and first responders to reduce opioid overdose-related deaths and nonfatal incidents.*** The Begun Center partnered with the Ohio Department of Public Safety (DPS) Office of First Responder Wellness to deliver two-hour live online training sessions focused on self-care (also referred to as compassion fatigue) training. The training focused on increasing first responder awareness of the importance of self-care to identify potential impacts of job-related stress on an individual's physical, emotional, mental, spiritual, and behavioral health. This activity was discontinued in Year Four due to low participation rates. The ADAMHSBCC and the CCBH also provided training to public safety officers to raise awareness of new partnerships, programs, and challenges (including Adverse Childhood Experiences (ACES) related risk factors) and information regarding the local opioid epidemic (Table 50).

Table 50

Short-Term and Intermediate Outcomes on Enhancing Partnerships with Public Safety and First Responders from September 2019 to August 2023

Description	Baseline	Target	YR 1 Data	YR 2 Data	YR 3 Data	YR 4 Data	Outcome Status
Link2Care cards distributed to agencies	0	400	Link2Care Card Developed	6500	5800	3919	Achieved
Trainings provided to first and secondary responders on local opioid related efforts.	0	8	3	17	37	23	Achieved
First and secondary responders receiving self-care/compassion fatigue training	0	50/yr.	0	12	45	N/A	Discontinued in Year Four
Public safety and first responder partners receiving training on opioid overdose epidemic and evidence-based approaches	0	50/yr.	43	427	425	305	Achieved

Expand Police Assisted Referral (PAR) Card Use to HIDI Detectives and Others. In Year One, a "PAR card" was developed. It was renamed a "Link2Care Card." Link2Care cards were distributed by CCBH to several different agencies. In Year Four the cards were changed to bookmarks and CCBH distributed 3,919 cards to agencies. Agencies included the ADAMHSBCC, Project DAWN, St. Vincent Charity Hospital, Thrive, Project Noelle, Stella Maris, Hispanic UMADAOP, CWRU Preventive Medicine Residents, Ohio Restaurant Association and Lutheran Metropolitan Ministry Men's Shelter. Cards were also distributed during the City Managers/Mayors meeting in Cuyahoga County. ***During the grant a total of 16,219 Link2Care cards were distributed, far exceeding the target of 400.***

Enhance Compassion Fatigue Awareness Training for First and Secondary Responders. During the first two years of the grant, scheduling of the Compassion Fatigue Awareness training was delayed due to COVID-19. Steven Click, First Responder Liaison with the DPS, was identified to conduct the training. Begun Center staff expanded the definition and scope of potential recipients of this training to include community agency staff and peer support personnel who engage on a regular basis with opioid overdose victims, referred to as "secondary first responders." The Begun Center and Mr. Click conducted virtual trainings with a total of 146 individuals registering for the sessions and 57 individuals attended one of the trainings. Due to the low number of individuals participating, the training was discontinued in Year Four.

Cross Training of Public Safety Forces to Raise Awareness of New Partnerships, Programs, and Challenges Regarding the Local Opioid Epidemic. During the past four years, the ADAMHSBCC and the CCBH were tasked with training law enforcement, EMS, and emergency department staff to increase OUD awareness among public safety staff. Incorporated into their Crisis Intervention Team (CIT) training, board staff trainers included information regarding the signs of someone overdosing and/or at risk for overdosing. Trainers also included education about opiate use and the effects of Adverse Childhood Experiences (ACES). During Year Four, the training sessions were held one to three times per month, with an average of 25 officers trained per month. Those trained were from 49 different agencies and while their ranks varied, the majority of those trained were patrolpersons. ***Throughout the four years, a total of 1200 law enforcement employees were trained.***

Over the course of the OD2A Initiative, law enforcement faced COVID-related challenges, understaffing, competing mandated state trainings, and an increase in violence throughout the county; yet despite this, the ADAMHSBCC staff were still able to achieve and exceed the target of 50 law enforcement officers trained per year. Throughout the grant, trainers incorporated more scenario-based options to keep public safety staff engaged in the material and attempted to identify resources and educational materials that would be most beneficial to officers who already receive copious amounts of mandated training every year. The ADAMHSBCC staff shared that they have received feedback that officers who participated in the CIT trainings are more likely to respond to OUD related calls, a success of the grant. Furthermore, incorporating opiate education in CIT training has allowed public safety staff in Cuyahoga County to have a better awareness of the epidemic and tools available to connect those at-risk or experiencing crisis.

Provide Peer Support Services to First Responders and Frontline Workers (Thrive)

In the last years of the grant, Thrive developed a new program to provide peer support services to first responders and frontline workers such as EMS, firefighters, law enforcement, etc. Thrive recruited frontline workers to provide peer support to other frontline workers and link them with the International Association of Fire Fighters (IAFF) peer support training program. The evaluation question tied to this activity was ***how can Peer Recovery Workers support first responders and frontline workers?*** Evaluation outcomes intended to examine the type of assistance and/or referrals first responders and frontline workers needed, as well as coping mechanisms and tools that could be used to help alleviate signs and symptoms of stress, trauma and PTSD. The evaluation also meant to identify the ways the First Responder Support Line was beneficial for first responders and frontline workers and ways it could be improved. Despite support from organizations like ADAMHSBCC and the Ohio Mental Health and Addiction Services, the program did not get the expected response from the frontline workers, with just one call received in April 2023. Name confusion and misconceptions about services complicated outreach and community engagement. Thrive is exploring new marketing strategies and revamping the warmline to increase its utilization.

CCOD2A Project Performance Assessment

Introduction

This programmatic assessment offers an independent evaluation of the progress made in administering the CCOD2A Initiative in Year Four. The evaluation is based on an analysis of qualitative data gathered from participating agencies between September 1, 2022 and August 31, 2023, focusing on key themes and sub-themes. The qualitative data collected provided opportunities to explore descriptions of agency staff members' and community stakeholders' experiences, perceptions, and opinions of the implementation of programs within the CCOD2A Initiative that were offered in their own words and were outside The Begun Center evaluators' knowledge. Besides the CCBH, the other participating agencies included: ADAMHSBCC, CHA, The Center, CSU, CCMEO, MetroHealth, Thrive, SOC and Woodrow.

To aid in understanding the factors affecting OD2A's success, The Begun Center administered a midyear survey to OD2A participating agencies. The midyear survey allows evaluation staff to track changes in challenges over time and seek input on program successes, dissemination of knowledge gained from program activities, unexpected outcomes, and innovative ideas stemming from project activities. Additionally, at the end of each year, focus groups and individual interviews were conducted with staff from the participating agencies and community stakeholders to gain deeper insights into the day-to-day activities of the OD2A Initiative.

CCOD2A Programmatic Report & End of Year Focus Group Findings

For the collection of mid-year programmatic survey data, participating agencies submitted written qualitative data directly via REDCap® to The Begun Center. The survey was comprised of 10 open-ended questions and covered the period of ***September 1, 2022 through February 28, 2023***. Focus groups and individual interviews were held at the end of Year Four with staff from the participating agencies to gather more insight into the day-to-day activities surrounding the CCOD2A Initiative covering September 1, 2022 and August 31, 2023. Twelve focus groups and 3 interviews were conducted during May and June of 2023. Focus group/interview questions explored six themes: (1) lessons learned, (2) data sharing and utilization, (3) cross-agency collaboration, (4) service gaps and barriers, (5) agency sustainability plans and (6) other points of discussion.

The qualitative data provided the Begun Center evaluators with important insights into agency staff members' and community stakeholders' experiences, challenges/barriers, and current and future needs to better serve the community. In addition, agencies were asked how they plan to sustain the activities established and funded under the OD2A grant.

For midyear programmatic survey data collected, written qualitative data was directly submitted via REDCap® to The Begun Center by participating agencies. For the annual focus group and interview data

collection, a Begun Center evaluator conducted the audio-recorded focus groups and interviews. This verbal qualitative data was collected via Zoom. Audio recordings were transcribed via Otterai® and the resulting transcripts were cleaned by the Begun Center evaluators. At the conclusion of both forms of data collection, the qualitative data were analyzed and re-analyzed by one evaluator using the Systematic Text Condensation method (see Malterud, 2012). The evaluator read and re-read the data to pull preliminary and subsequently emerging themes and sub-themes from the broader context of the agency and stakeholder results. These themes were then grouped together into discrete meaning units related to CCOD2A planning and implementation. The evaluator who analyzed this data further assessed and revised iteratively these discrete meaning units to create consistent statements about participating agency staff members' and the stakeholder's experiences, perceptions and opinions as they related to various themes.

The primary findings from the programmatic data, which includes the focus groups and interview and mid-year programmatic survey are divided among seven key themes (Table 51). The most compelling programmatic and focus group/interview findings are presented as direct quotes. The direct quotes also are arranged beneath relevant sub-headings. The direct quotes contain very minor edits, such as deletions marked by ellipses and points of clarification appearing in brackets.

Table 51

Key Themes from CCOD2A Programmatic Assessment

Themes	Details
Enhancing Activities: Notable Changes Among Partner Agencies	Agencies initiated notable changes to improve their services, overcome barriers and adapt to emerging challenges.
Linkage to Care Across the Continuum of Care	Agencies adapted their approach to linkage to care and outreach to ensure that SUD/OUD patients connected to treatment services and maintained their engagement.
Innovating for Impact: Agencies Embrace Creative Approaches	Agencies explored innovative ideas to overcome challenges, collect data to inform their services and deliver harm reduction resources.
Barriers: Navigating Barriers in Engagement Efforts	Agencies identified challenges to program administration and explored possible ways to overcome them.
Recognizing Social Determinants of Health	Agencies shared awareness of important social determinants of health (SDoH) that influence patient mental health and SUD recovery.
Dissemination and Data Sharing Strategies	Agencies developed strategies for sharing knowledge gained and lessons learned through education, conference attendance, and meetings/interviews with collaborating partners.
Sustainability Plans for Activities for Post-Grant Period	Agencies discussed their plans to sustain, cease and modify some or all of their activities to continue supporting their respective communities in some capacity.

Theme 1: Enhancing Activities: Notable Changes Among Partner Agencies. Several CCOD2A participating agencies initiated notable changes, some to improve their services and support their respective target populations and others to overcome barriers and adapt to emerging challenges. SOC shared that, "*One change we did make [was] getting our own space across the street in the hospital. At first, all the case managers were in the SOC building, but we just started up our own space."* SOC's decision to acquire a dedicated space reflects a strategic shift aimed at enhancing their services. The new location provided a more accessible and focused environment, facilitating better patient engagement and promoting seamless coordination and linkage to care.

Some of SOC's other changes were in response to St. Vincent closing their inpatient services at the end of 2022. As a result, during this reporting period, SOC saw "*people coming through the ER and more acute care settings decrease, so we pivoted to a linkage to care model."* Prior to St. Vincent's closing, SOC did

not have a "*community-based program that was out in the community, walking alongside people helping them link to treatment services."* However, with St. Vincent no longer providing inpatient services, SOC *"created the Crisis and Recovery Services Program, and the OD2A money has helped with staffing to begin providing linkage to care, screening of people, identifying those with mental health, addiction, or both needs ... and added peer support drop-in services to help people get and stay connected to care."*

Due to St. Vincent's reduction in services, Woodrow also experienced increased service demand. In response, Woodrow made two significant changes. First, they added more time for peer supporters to work with these additional clients. Woodrow shared, "*With St. Vincent Charity Hospital closing, we saw our numbers double from the previous month and just a huge influx of people, and we've consistently since then seen higher numbers. So, we really saw an increase, and therefore, the peers were working more."* Second, Woodrow adjusted their budget to accommodate the higher transportation costs incurred by the influx of patients.

CCBH also made changes this last year by expanding resources and the scope of support they provided to the community and partner agencies, "*purchasing and distributing harm reduction resources such as naloxone, fentanyl, and Xylazine test strips*." CCBH effectively optimized its resources to meet increased demands and proactively provide harm reduction resources.

MetroHealth also made modifications to their service delivery in response to new changes in the drug supply in Cuyahoga County. MetroHealth shared that, "*We had to adapt to the challenge of drugs laced with xylazine. This required us to address wound care and educate individuals on the complexities of Narcan's effectiveness."* Similarly, The Centers, which became a Project DAWN site in May of 2022, *"distributed Narcan to both [their] clients as well as community members. Along with fentanyl strips, and incorporated Xylazine [testing strips] and offered education on the importance of testing for both."* MetroHealth's and The Centers' incorporation of Xylazine testing strips and educational resources highlight the importance of continuous cross-county surveillance of trends due to the complexities and fluctuations in the opioid epidemic.

Several agencies changed their day-to-day operations to enhance efficiency and improve treatment follow-through. For example, a MetroHealth staff member shared that this year they aimed to make their QRT visits more efficient by collaborating with the sheriff's office, *"so Euclid essentially sends their data, and then [MetroHealth staff] actually go out and conduct the visits with the sheriff's office instead of Euclid police."* Similarly, The Centers expanded their services by collaborating with Thrive to incorporate a Thrive peer support specialist at SSP to *"support [The Centers'] linkage to care efforts, especially with [services] targeting substance use disorder: our detox or inpatient, and outpatient."* The Centers also utilize surveys to gather *"feedback from [their] clients about what things they need and how to support them with that."* The Centers also has adapted their education to address miseducation about naloxone's effectiveness when clients share that, *"Narcan doesn't work anymore."*

Partner agencies have improved their services and support for their respective communities. Adaptations in their service models, resource allocation, collaborations, and responsiveness to new challenges and changes allowed them to meet the evolving service and education needs of their clients/patients.

Theme 2. Linkage to Care across the Continuum of Care. SOC's primary focus under the CDC grant was to help individuals experiencing mental illness and addiction by filling gaps in care, particularly in the community. SOC provided support to ensure individuals connected to treatment services and follow up with them to help them maintain engagement. SOC shifted and emphasized a holistic approach to linkage to care. By remaining committed to their clients' well-being, SOC fostered lasting connections that are essential in sustaining progress and preventing disengagement from treatment. SOC shared that their "*focus is on providing linkage to care and identifying those with mental health, addiction, or both needs by ensuring that individuals are connected to the appropriate level of care and stay engaged with them for as long as necessary*."

Similarly, this year Thrive's Linkage Coordinator continued to prioritize continuity of care. The Thrive Linkage Coordinator shared that they follow "*individuals as they transition from inpatient to outpatient treatment, and remain linked with them, supporting their journey towards sustained recovery."* To ensure that the Thrive Linkage Coordinator was able to follow clients as they transition across the continuum of care through a Release of Information (ROI) executed by the clients to assist the Linkage Coordinator's understanding of the clients progress in treament. A Linkage Coordinator shared that "*It [ROI] enables us to continue helping individuals even after they leave the hospital and return to the community."*

Several agencies observed and adapted to housing and transportation barriers experienced by clients, which had a direct impact on their continuity in mental health and substance use treatment. For instance, SOC recognized the significance of accessibility and transportation assistance for those seeking care by extending their care services to "*providing transportation support and ensuring that individuals can access case managers and various care services*." Addressing transportation barriers ensured that individuals had access to treatment, promoting inclusivity and reducing potential obstacles that may hinder patients' journey toward recovery.

Similarly, Thrive also shared its efforts to help clients and treatment facilities for smooth linkage to care,

> *As the treatment side of things, transportation was a barrier for folks getting from point A to point B so from the emergency department to the detox or treatment center. Or maybe if they do have housing, from their house, to whatever their level of care treatment is, maybe it's outpatient or whatever. So, Thrive will try to assist with any of the barriers that do come up. So, for transportation, we'll utilize Uber to get them from point A to point B.*

SOC, Thrive, and Woodrow found that some populations have additional special needs. SOC shared that,

> *As the landscape of care evolves, we have adapted our model to reach individuals in various settings, such as homeless services. So, we've done some work with the homeless outreach team and started to do some work with that … we shifted more into this kind of linkage to care-outreach mode. We also do a lot of community engagement, community outreach and have done some pop-up events inviting community members to do things like art therapy and had an event tailored towards mothers and celebrating mothers with the spirit of destigmatizing mental health.*

Woodrow also shared,

> *I think the homeless population has a whole different set of fears because they don't have anywhere to go. I think what we do on our end is advocate, tell them how to advocate for themselves once they get to treatment, push for this, push for that, ask for this. Help make it happen, and the treatment facilities have been doing that, but encouraging people to advocate for themselves is something huge that I think helps a lot.*

SOC, Woodrow, and Thrive adapted their approach to linkage to care and outreach by recognizing the importance of responding to changing needs and environments. These agencies reached patients in diverse settings, improved inclusivity of their services and ensured that no one was left without support. These agencies helped build a foundation for successful and sustained recovery journeys.

Theme 3: Innovating for Impact: Agencies Embrace Creative Approaches. Several CCOD2A partner agencies explored innovative ideas to overcome challenges, build and expand on previous innovations and deliver harm reduction resources. CHA *"piloted the QuizTime course last year and had a good response engaging physicians more effectively than the traditional modules."* Given this response, CHA, along with Vanderbilt University, started work on a new course *"to reduce stigma through compassion fatigue training, approaching stigma from a unique perspective."*

MetroHealth staff shared that they *"added a vending machine this year, stocked with naloxone. It has made naloxone distribution more accessible to those in need."* MetroHealth's academic detailing program "*created a note template to remind providers of necessary actions, including checks, orders, and education."* This innovative approach ensures that critical steps and information are not overlooked by providers when assisting clients.

CHA also utilized an innovative approach to reducing stigma through a documentary project titled, *Igniting Compassion.* CHA staff shared that the documentary is based on interviews with *"clinicians, people with lived experience, and their family members to humanize stories of addiction, healing, loss, pain, trauma, and hope, and to showcase that treatment really works."* One of the goals was to "ignite compassion" by

promoting a more sympathetic and understanding environment for both providers suffering from burnout and compassion fatigue, as well as their clients who are struggling with SUD (including OUD).

CCBH also made innovative strides in data analytics and data visualization. CCBH *"gained access to Google Analytics for [their] overdose webpage, so [CCBH] can see the different demographics of who's coming to [their] webpage."* By analyzing demographic data and engagement metrics, CCBH gained insight into the effectiveness of their online resources that help guide overdose prevention efforts.

CCBH also enhanced several of the Overdose Data Dashboard features. A CCBH staff member shared that they *"continually enhance the dashboard with new data sections and improved displays for drug seizure and mortality data."* Similarly, CSU added a Chatbox feature to their *drughelp.care*. The Chatbox feature *"is available for anyone to kind of start on our website" and helps anyone navigate drughelp.care to explore what services are available and meet the needs of individuals."*

Theme 4: Barriers: Navigating Barriers in Engagement and Data Sharing Efforts

CCOD2A participating agencies reported challenges and barriers in their community outreach and engagement efforts shedding light on the diverse obstacles that hindered efforts to connect with and support their communities.

Challenges in Follow-Up. SOC and MetroHealth reported challenges in following clients and helping them address their needs. SOC shared that, *"It has been challenging to follow up with individuals who don't have phones or are at shelters, making it difficult to assess their needs."* MetroHealth shared that they do not *"have the data or ability to follow up to know if individuals have received treatment outside Metro's system."*

Complex Data Sharing and Legal Barriers. Agencies also encounter legal complexities and stakeholder reservations when accessing and sharing data for surveillance and community initiatives. These barriers hindered the establishment of comprehensive and accessible data-sharing systems critical for informed decision-making. For example, CCBH shared that *"Gaining access to specific sources of data involves navigating complex legal agreements and data sharing restrictions. … Some agencies are hesitant to provide information for public health surveillance, even though they readily share it with research projects."* CCBH also shared that "*The nonfatal data piece is extremely hard for [them] to get a handle on. [They] have access to hospital data, but it may not include all nonfatal overdoses."*

One example of an attempt to share information across systems is the OFR. The OFR is coordinated between the CCMEO and CCBH, with twelve agencies comprising the Cuyahoga County OFR (CCOFR), including law enforcement, local hospitals, mental health and public health agencies. According to a CCMEO participant, the OFR has solidified its membership over the last four years. However, they continue to struggle *"to identify the appropriate contacts and representation from all hospital systems for data*

sharing." An OUD Specialist at the ADAMHSBCC also shared that they struggled to "*get people to participate in interviews."*

CSU has worked to enhance the *drughelp.care* as a resource available to the public. CSU reported that they *"encountered pushback from agencies in providing information for [their] website,"* even with their weekly efforts to ask agencies to update *drughelp.care*.

CHA discussed challenges in engaging providers in their education efforts. A CHA staff member shared that it has been

> *Difficult to reach primary care [providers]. … It's becoming a bigger challenge with hospitals buying all of the physician practices. There are people at the hospitals that sit on committees or on the opioid consortium. But they are not disseminating the information to the primary care practices because that's actually different departments. … This is going to take a whole different set of outreach to reach the primary care clinicians. We can't make them go to meetings.*

Thrive launched the First Responder Support Line in November of 2023. A Thrive Staff member shared that the First Responder Support Line was a resource for first responders to *"support those professionals with what they're struggling with. A lot of professionals in this space who experience some PTSD, and have suicidal thoughts themselves and it's very rare that they have the opportunity to just pick up the phone speak to someone … and seek support for ourselves."* Thrive staffed the line with three first responders from diverse backgrounds, such as police officers, military personnel, paramedics, and social workers from Child Protective Services and Adult Protective Services. Early on Thrive noticed noted limited its success,

> W*e started out with the name 'Frontline.' We change that because there is a behavioral health organization here in Cuyahoga County, named Frontline … We work with Frontline on lots of efforts, lots of fronts, and there was some concern even from the board [regarding] confusion between the two. So, we changed the line name from Frontline, and instead of calling it a warm line, we call it a support line because sometimes professionals hear warmline, they hear that, and they think, 'Oh, this is something that I can refer the people to that I help to' not necessarily for help myself.*

Thrive noted that name confusion and misconceptions about services complicated outreach and community engagement for the First Responder Support Line, which impacted ultimate success.

Theme 5: Recognizing Social Determinants of Health

In Year Four CCOD2A agencies discussed the importance of gathering information on social determinants of health (SDoH) as they can impact the populations they serve. SOC shared that housing security, stability, and employment are important determinants that impact patient mental health and substance

use/opioid use disorder recovery. "*If someone has stable housing, their worries are a little bit less or if they have a job that pays more than $8 an hour. You know, things like that."* Access to safe housing and meaningful employment can alleviate stressors and positively influence recovery outcomes. SOC acknowledged the importance of capturing a comprehensive range of data, including mental health status and other social determinants, beyond substance use/opioid use disorder. Such data can offer insights into the interconnectedness of health factors and better inform interventions.

CCBH advised their *"program partners to review surveillance data and alter their programming to better meet the needs of different populations."* In addition, CCBH stressed the importance of addressing upstream factors. *"A lot of the prevention work [they] do feels like it is downstream, unfortunately,"* and that they hope to focus on the prevention education piece before a substance use disorder becomes an issue. On the surveillance side, CCBH conducted data analytics to reach *"a better understanding of disparities and in subgroups that are getting hit harder than others."* By tackling root causes, SUD (including OUD) interventions and prevention can be more effective in promoting positive health outcomes.

Theme 6. Dissemination and Data Sharing Strategies. Many agencies disseminated knowledge gained and lessons learned via internal opioid-related updates to staff and external reports. Report dissemination audiences included, among others, all collaborating agencies, the CCBH-led Cuyahoga County Opiate Task Force, the U.S. Attorney's Office of the Northern District of Ohio Heroin and Opioid Task Force (HOTF), and during other opioid-related meetings in the community and the general public.

Knowledge disseminated included lessons learned about harm reduction and data sharing efforts, analysis results from collected data, and outreach service successes. CCBH also presented virtually to the CDC about their work on naloxone distribution and naloxone data collection and monitoring in Cuyahoga County. Another example is the Cuyahoga County DOIEP which describes the burden of the drug crisis on the population of Cuyahoga County in terms of socio-demographic and geographic characteristics of persons experiencing substance use/opioid use disorder. Quarterly, CCBH prepared a *Quarterly Data Bulletin*. CCBH shared, "*People seem to like the quarterly data bulletins, and [CCBH staff] made them easy to print for different agencies."*

CHA conducted an education needs assessment last year and shared their findings at the OFR quarterly stakeholders meeting, titled *OUD Treatment: Education Needs Assessment Overview of Key Findings*. CHA also premiered their documentary titled *Igniting Compassion.* The documentary shines a light on the medical stigma surrounding addiction through stories of local clinicians, people in recovery, and their family members on how treatment works and has improved their lives.

Several agencies also presented at national and local conferences. Thrive gave a presentation titled *Developing the Framework for a Recovery-Oriented Workplace Culture* at the NAADAC and the Roads to Recovery conferences. Woodrow presented during an X-Waiver training hosted by the Cleveland Clinic

Foundation (CCF). Woodrow also created a monthly newsletter that was distributed to all CCF ED staff that includes a success story, an overview of data, and a staff quote. Additionally, Woodrow created an annual report summarizing the previous year from November 2021 to November 2022.

CSU participated in several community events, including Red Ribbon Week, Wellfest, and Safe Spring Break. CSU also presented at several local conferences, including the Roads to Recovery conference, and the Substance Use Disorder in Women: History, Use, and Treatment conference.

The OUD Specialist from the ADAMHSBCC was a trainer in the COSSAP Next of Kin (NOK) training quarterly series and actively shared information with other Ohio counties on NOK interviews.

The Office of Opioid Safety of The MetroHealth System organized an educational conference titled *"Changing the Tide of the Opioid Crisis: Novel Approaches from Across Cuyahoga County."* The purpose of the conference was to share collaborative approaches currently used by CCOD2A participants. During the conference, several CCOD2A partner agencies shared information on patient support programs, expanded primary prevention, evidence-based interventions, resource access, and improved access to buprenorphine and harm reduction.

Theme 7: Sustainability Plans for Activities for Post-Grant Period

During the interviews and focus groups, Begun Center evaluators inquired about partner agencies' sustainability plans for their CCOD2A-funded activities. Agencies discussed their plans to sustain, modify some or all of their activities to ensure continued support for their communities in some capacity. Unfortunately, some agencies discussed plans to cease some grant activities past the grant funding.

CSU reported that *drughelp.care* will remain active, providing valuable resources and information to the community. However, *"without the funding, [CSU] will maintain the website, but won't recruit agencies or conduct registrations. [CSU] will focus on expanding community involvement when funding becomes available again."*

Similarly, CCBH has worked on "*building up some of the internal as well as external dashboarding stuff for OD2A behind the scenes, to hopefully make it more sustainable as funding shifts overtime."* CCBH aims to ensure sustainability and effective data monitoring beyond the grant period by investing in internal and external dashboard systems.

CHA highlighted its commitment to sustaining the opioid consortium and education initiatives. CHA recognizes the intertwined nature of these efforts and the importance of ongoing collaboration to tackle opioid-related challenges. "*The consortium is not going to go anywhere. [They] will continue to convene*

that group and continue to work with the partners CHA developed through the OD2A work. So that will be sustained. … We will continue to get feedback on these educational pieces."

Thrive is currently working on an internal sustainability plan. A Thrive project manager shared, *"For first responder line, I think because there's a lot of overlapping efforts, it probably wouldn't continue. Or we wouldn't be able to justify continuing this line since there are other lines."* Another Thrive project manager shared that Thrive is exploring ways to maintain and *"replicate the workforce development program across Ohio and pursue different funding opportunities to continue that type of work since it's been so successful."* Thrive will also explore grant-funding opportunities to sustain and expand the linkage coordinator's position across Ohio.

MetroHealth's QRT will continue under a COSSAP grant they were awarded. MetroHealth also shared that they *"are not going to change anything. The [OD2A] funding helps fund a lot of [their] staff and are not getting rid of any staff."* MetroHealth also plans to pursue additional funding sources to fund their staff and the other activities they established and carried out under the CCOD2A initiatives, including their ExAM program. MetroHealth, *"will probably continue as [they] always have"* after the conclusion of the CCOD2A funding.

CCMEO and their OFR partner agencies plan to continue carrying out the OFR after the conclusion of the OD2A grant. Unfortunately, the CCMEO will not be able to support the OD2A-funded additional forensic epidemiologist and the ADAMHSBCC OUD Specialist positions post-grant period. The ADAMHSBCC will continue the "*CIT training, community focus, and OUD"* post OD2A funding.

Several CCOD2A partner agencies plan to sustain and expand essential initiatives even after the grant period ends. These activities include maintaining websites, building internal systems, and fostering collaborations. When able, several CCOD2A agencies focused on long-term sustainability and adaptability to ensure that their efforts continue to positively impact their communities. Other CCOD2A agencies applied for funding to sustain their initiative or had to cease some or all their OD2A-funded activities. Woodrow has not explored funding to sustain their OD2A-funded activities.

Programmatic Summary

The activities undertaken by the CCOD2A partner agencies during the last year collectively highlights a profound dedication to improve the lives of individuals and communities struggling with substance use/opioid use disorder and its social and economic implications. CCOD2A agencies' efforts extend far beyond traditional approaches, emphasizing community engagement, collaboration, innovation, and adaptability. There is an emphasis on fostering meaningful connections through diverse outreach activities, commitment to community-based support, recognizing and improving SDoH, and the importance of linkage to care. As the CCOD2A Initiative concludes, several agencies reported a commitment to sustaining

essential initiatives, ensuring a lasting impact on the health and wellness of their communities. While challenges persist and continue to arise as the opioid epidemic changes in Cuyahoga County, collective efforts shared this year and in previous years showcase the importance of holistic, collaborative, and data-informed approaches to promoting SUD and OUD recovery, and overall well-being within diverse communities.

Conclusion

The Cuyahoga County CCOD2A Initiative has achieved most of its objectives within each strategy for the CCOD2A Initiative. Evaluation efforts have helped to better shape the understanding of barriers and strengths that exist in the community while also simultaneously strengthening partnerships among agencies. While drug-related deaths remain high throughout Cuyahoga County, through the CCOD2A Initiative there has been an increase in education, awareness, and distribution of naloxone. During the grant several presentations and papers highlighting the findings from the CCOD2A Initiative were accomplished by the CCBH and the Begun Center; a complete list of which is included at the end of this report. Additionally, the number of evidence-based programs available countywide has increased. This evaluation report accents the hard work partner agencies have put forth to address the opioid epidemic in Cuyahoga County. The solutions to this problem are better understood due to the efforts of those involved in this grant.

> *I think we have so many programs in place to potentially reach people in different scenarios. Whether you know, we're tracking somebody in the emergency department currently ...whether it's jail or the community or their home and after they overdose, I think we are showing that we're, you know, we're going above and beyond and really trying to track these people down and stay in contact with them and get the information out there or the resources out there that they need versus just hoping that someone picks up a phone and calls and says they want treatment. I mean, we're extremely proactive and not reactive. And I think that's kind of where we excel and what sets us apart. – CCOD2A Focus Group Participant*

Despite the notable progress, much work remains given the complexities of addiction and the depth of the opioid epidemic in this region. A focus on connecting individuals who are homeless or those seeking treatment after normal business hours are but a few areas that need more attention.

> *While we know we have an affordable housing crisis in general in Cuyahoga County, the other part of the some of the other work that we do is recovery housing … We know that there especially for women, but women and men, that there are still too long of waitlist for recovery housing, and certified quality rehab recovery housing, there's just still not enough of it in Cuyahoga County. So, you know, we spend this money for somebody to go to detox to go to treatment, and then you know, 30 or 60 days later, we're returning them to the homeless shelter that they came from, or we're returning them to, you know, unhealthy environment*. – CCOD2A Focus Group Participant

After hours, there still are only limited resources for places for people to go. – CCOD2A Focus Group Participant

Over the last four years, the agencies providing services funded by the CCOD2A have touched a large number of lives impacted by the opioid epidemic in Cuyahoga County including those experiencing OUD, their family and friends, first responders, healthcare workers, and others. Findings from the evaluation highlight how individuals and agencies working together can make an impact in combatting the rise of fatal and nonfatal overdoses.

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