Cuyahoga County
Overdose Data to Action Initiative

Final Evaluation Report, Executive Summary

August 2019-September 2023

Cuyahoga County
Overdose Data to Action (CCOD2A Initiative)

Final Evaluation Report Executive Summary(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.

This publication was supported by a grant, 5-NU17CE925005-02-00, funded by the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention or the Department of Health and Human Services. Access and use of REDCap was made possible through the Clinical and Translational Science Award (UL1TR002548).

We wish to acknowledge the following individuals' contribution to this report:

The Begun Center
Michelle Riske-Morris, PhD, JD, Daniel Flannery, PhD, Karen Coen Flynn, PhD,
Junghyae Lee, PhD, Vaishali Deo, MD, MPH, Ivette Noriega, PhD, Thomas Zawisza, PhD, Luma Masarweh-Zawahri, PhD, Sarah Fulton, MA, Edward Dabkowski, MA,
Maggie Ogonek, MSW, Ryan McMaster, and Rodney Thomas, MA

We also which to acknowledge the following individuals' assistance for the surveillance activities detailed in Strategy Three.

Cuyahoga County Board of Health
Rebecca Karns, MPH, Rebecca Hysing, MPH,
Samantha Smith, MA, MS, Khandi King, MS,
Lauren Bottoms-McClain, MPH & Morgan Murphy, DrPH, MPH

CDC Foundation
Asé Nahmaé, MPH & Patricia Ratcliff, MPH

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

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. The overarching purpose of the CCOD2A Initiative 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. Major accomplishments and findings from the CCOD2A Initiative are included within this Executive Summary which spanned four years (September 1, 2019 - August 31, 2023).
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

Long Term Outcomes

Long-term outcomes were identified to assess patterns and trends related to opioid use among residents of Cuyahoga County. Some outcomes were required as part of the application for funding and others were identified as important for measuring impact. In the last four years there has been an increase in the number of evidence-based programs and/or services (EBPs) available in Cuyahoga County to treat Opioid Use

Disorder (OUD), as recorded by *drughelp.care*.[1] The Initiative has also seen increases in linkages to treatment for individuals who have experienced a nonfatal overdose and/or individuals with opioid use or substance use disorders (OUD/SUD). Although the prevalence of OUD has increased, this may be due to better screening or tracking of OUD by medical providers. Despite an increase in the number of nonfatal overdoses, 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. Unfortunately, the continued increase in fatal overdoses in Cuyahoga County, over the last several years, illustrates the impact opioids and opioid analogs, especially fentanyl, continue to have.

> *"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*

Surveillance

One strategy of the CCOD2A Initiative focused on developing and implementing innovative surveillance of nonfatal and fatal opioid overdoses in Cuyahoga County; the purpose of which was to disseminate lessons learned and inform prevention strategies. Efforts included the collection and integration of diverse datasets from both public and private sources. The CCOD2A surveillance team monitored and reported on key indicators, primarily disseminating findings through the Overdose Data Dashboard, the Quarterly Surveillance Bulletin, and the Drug Overdose Integrated Epidemiological Profile (DOIEP).

The Overdose data dashboard illustrates the impact the opioid epidemic has had in Cuyahoga County, and more importantly, helped direct prevention and intervention efforts in addressing the opioid crisis, targeting harm reduction services in high burden areas of opioid overdose deaths and nonfatal incidents. Agencies used these maps to (a) plan upcoming outreach events and (b) distribute naloxone and fentanyl test strips. For example, a 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 high numbers of suspected overdoses and the data helped drive policy change. Another example included risk terrain modeling (RTM) software which mapped priority areas in Cleveland with elevated risk of drug overdoses. These areas were identified as high risk based on

[1] Please note that the reported data only includes data from agencies registered on the website and not 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.

historical non-fatal suspected overdose incident data. By identifying these high-risk zones, which included areas around convenience stores, gas stations, and other businesses, the map can be used to guide targeted intervention strategies and harm reduction efforts.

"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 DOIEP combined multiple data sources creating a comprehensive picture of the drug overdose burden in Cuyahoga County. The DOIEP includes descriptive statistics, rates, and geographic analyses and 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. DOIEP Key findings comparing 2020 to 2021 for Cuyahoga County illustrate:

- 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.

Analyzing drug seizure data from law enforcement sources also served as a valuable tool for tracking drug trends. A particularly relevant 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 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. 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%.[2]

[2] 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.

Prescription Drug Monitoring

Another CCOD2A strategy focused on Prescription Drug Monitoring Programs (PDMP). MetroHealth enhanced its management of PDMP for identifying high-risk prescribing activity to trigger proactive reports to providers for action. In the last four years, the number of co-occurring prescriptions of opioids and benzodiazepines at MetroHealth decreased by 56%. The number of prescriptions each year greater than 50 Morphine Milligram Equivalents (MME) written by MetroHealth providers also decreased by 6%, as well as the number of opioid prescriptions, 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 (2019) to 3,792,673 in Year Four (2023), representing a decrease of 37%.

"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 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.

The Center for Health Affairs (CHA) developed a toolkit of best practice information made available to other healthcare settings in Cuyahoga County. MetroHealth provided technical assistance to CHA on the toolkit design to enhance utilization of Ohio's PDMP system, known as Ohio's Automated Rx Reporting System (OARRS). The Toolkit and training courses are available to any healthcare employee providing guidance on OUD and information on how to evaluate and assess prescribing practices. The Toolkit also included a Peer Review Model program. 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 partnered with MetroHealth to raise awareness across hospital systems throughout Cuyahoga County. These efforts included online resources hosted on the CHA website as well as email engagement, conference presentations, and key informant interviews to assess the usefulness and potential implementation of the Peer Review Model. The finalized Toolkit is posted on the CHA website www.opioidconsortium-education.org.

Although MetroHealth was not successful in increasing the use of the PDMP as 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 (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 explain MetroHealth's inability to achieve objectives related to increased use of the PDMP. MetroHealth's efforts, however, have generated greater insight into the benefits of using the PDMP by high volume prescribers; the access and support this program has provided has also helped standardize measurements, develop individual performance scorecards to educate providers on their prescribing behaviors, and provides a comprehensive overview beneficial to the health system.

Enhancing Prevention and Response Efforts

This CCOD2A strategy focused on enhancing prevention and response efforts by identifying opportunities for linking state and local resources and entities. Through the Initiative the CCMEO with the assistance of the CCBH and ADAMHSBCC conducted Overdose Fatality Reviews (OFRs). The OFR provided an opportunity for community partners to collaboratively review individual social histories for a sample of individuals experiencing a fatal overdose in Cuyahoga County. The goal of the OFR was to systemically identify 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*

While this activity was successful in initiating dialogue among community agencies, diversifying the OFR committee to be representative of those served by community agencies would be an area for improvement. Staff also noted the difficulty in moving past identifying gaps in services to implementing change. For example, the OFR committee identified improving screens for fentanyl testing as an important county-wide initiative, but where and who should be responsible for implementation remains unresolved. While the OFR will not be an activity that continues under the most recently awarded OD2A grant, 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.

> *"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*

MetroHealth and CCBH developed a Rapid Response Lay Responder Narcan® distribution protocol for overdose spikes, which included identifying potential hotspots of overdose activity. Through this Initiative, MetroHealth provided overdose response training to lay responders, law enforcement, and community agencies. These trainings provided information on where to access Project DAWN (Deaths Avoided with Naloxone) kits. The number of naloxone distributions from Project DAWN sites or locations reporting data to the CCOD2A Initiative increased by 56% since baseline.

To assess knowledge gained from the overdose response training, MetroHealth, in collaboration with the Begun Center, developed a survey administered to respondents before and after the training. Since July 2021, 1,645 respondents completed the survey. 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. Analysis of a post-test survey revealed that over 92% of all respondents reported that their knowledge increased after viewing the training video. Many respondents encouraged the training to be distributed elsewhere as they believed it provided information that was succinct and easy to follow. The training's effectiveness in facilitating knowledge acquisition demonstrates its potential as a valuable tool in opioid overdose response.

During Year Four, Thrive For Change, a small non-profit organization in Cuyahoga County, received funds to distribute Narcan, fentanyl strips and provide outreach services geared towards increasing harm reduction efforts. Within a period of three months, the organization served a total of 598 individuals, the majority of whom were White females.

As part of Ohio's OD2A Initiative, a 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 COVID epidemic significantly impacted the QIR during the first three years of the grant. During this time, attendance at the quarterly QIR 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 committee. Subcommittees included Prevention, Evaluation, Grants/Administration and Surveillance.

QIR's new direction 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. 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. Topics of interest discussed at the 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. Whenever possible, presentations were scheduled during the committee meetings that coincided with these topics of interest.

CCBH also developed media campaigns targeting populations at high risk for overdose during the CCOD2A Initiative. Media campaigns and outreach events were valuable to spread awareness about resources available and messages directed at harm reduction. The 'danger of using alone' message also was circulated through the county.

Linkage to Care

One of the most significant strategies within the CCOD2A Initiative focused on linkages to care for individuals who experienced a nonfatal overdose and/or individuals living with OUD/SUD. The evaluation collected information on the ability of partner agencies to engage, refer and link these individuals with treatment.

Thrive utilized a Center for Medicare and Medicaid evidence-based peer-to-peer support model that employed certified peer recovery (PR) supporters. These PR Supporters connected directly with individuals (or their family or friends) who presented in the SVCMC emergency department with a behavioral health diagnosis (particularly OUD) 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. With SVCMC closing most of its operations in Year Four, Thrive started serving clients who also presented at MetroHealth's Overnight Emergency room in addition to the SVCMC Psych ED. Thrive also provided community-based PR support services to individuals seeking outpatient treatment services at MetroHealth's Parma (MHP) and MetroHealth Broadway (MHB) locations.

During the CCOD2A Initiative, Thrive PR supporters encountered 1,683 clients and engaged 87% of them (n=1,467) in discussions regarding treatment. Most of these individuals self-identified as either White (n=706, 42%) or Black/African American (n=634, 38%). The race for the remaining 343 clients was identified as other, multiracial, or not reported. 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. 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 ED encounter. Other reasons included clients being intoxicated, in withdrawal, not cooperative, or already engaged in treatment. Thrive was able to link 996 of the individuals with treatment (56% of those encountered). A multivariate logistic regression revealed that homeless clients had 2.6 times higher odds of getting linked with treatment compared to clients who were not homeless. While detoxification remained the most linked treatment service, many clients were also referred to Thrive's community-based peer support services (CPS) and other social services.

> *"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*

CPS is an essential component of peer recovery services and is an effective way to enhance treatment outcomes and reduce the risk of relapse of substance use. In Year Four, Thrive hired a community linkage coordinator who connected with their clients referred to CPS. The linkage coordinator encountered 982 clients. The average age of the clients was 44 years (SD=13 years) and most self-identified as White (49%, n=480) or Black/African American (47%, n=460). The majority were also male (n=644, 66%). Unfortunately, only a small percentage, 14% (n=135), 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. PR supporters can provide individuals help and guidance on their road to recovery. Future initiatives should explore ways to enhance connections between clients and PR supporters after the initial ED visit.

Thrive also received funding in the last two years of the grant to provide community-based PR support to uninsured clients. One objective was to assist these clients in becoming insured. Thrive identified clients who would benefit from community-based peer support and PR supporters created and tracked the clients' assessment and treatment completion plans and work towards getting their clients insured. Overall, 31 out of 334 clients (9%) moved from being uninsured to being insured.

Despite advancements increasing the utilization of PR supporters, the number of PR supporters in Cuyahoga County is limited. The state of Ohio Department of Mental Health and Addiction Services recognizes the significant role of PR supporters and 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. A PR supporter 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. During the last two years of the CCOD2A Initiative, Thrive developed a PR supporter internship program. Thrive enrolled 31 candidates into the program and 26 completed the Ohio Peer Recovery Supporter Certification exam. A total of 19 candidates obtained internship graduation job placement.

> *"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*

Woodrow used a PR services on-call model called Project SOAR, which provided services in the Cleveland Clinic Lakewood ED and Cleveland Clinic Lutheran Hospital ED. A PR supporter connected directly with individuals (or their family and friends) in the ER, who experienced an overdose or who have an OUD, and agreed to meet with the Woodrow PR supporters. The hospitals have iPads programmed to call a Project SOAR phone that is in service 24 hours, seven days per week. Individuals who agreed to speak to Woodrow staff were then connected directly with a peer recovery supporter. During the last four years Woodrow linked 827 individuals with treatment (89% of those encountered).

> *"...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 jobs easier too."*
> *- 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 from 14% in Year One to 34% in Year Four. Detoxification and inpatient treatment were the most commonly linked treatment services. A barrier Woodrow encountered throughout the grant was difficulty connecting with individuals once they left the ED. Woodrow attempted to contact their clients for follow up. The response rate to follow-up surveys

was low as PR supporters found it exceedingly difficult to contact the clients by phone. For those clients they were able to connect with, the most common reason clients reported for remaining in recovery was wanting a better life, and associating with wrong company was the most common reason for relapse.

In Year Three of the CCOD2A Initiative, Woodrow hired a patient navigator to assist their clients placed in recovery housing with services that would promote recovery and independence. The Patient Navigator identified the needs of clients, 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. From April 2022 to August 2023, the Patient Navigator encountered 78 clients. All clients were female (one client male to female transgender), with an average age of 39 years (SD=12 years). Most 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 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 other common needs. Of the 1,171 needs, 1,060 (90%) needs/services were either completed or were in process of completion by the end of the grant.

To highlight the accomplishments of Woodrow's Patient Navigator, it is best told by sharing a resident's story. When one 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."

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

who needed treatment services. SBIRT is an effective way to integrate SUD management into primary care and general medicine. The SBIRT program ran from April 1, 2020 to November 15, 2023. A total of 8,384 individuals agreed to the initial SBIRT screening, of whom 474 patients with Drug Use Disorder (DUD) were identified to receive the secondary screening called the Drug Abuse Screener Test (DAST). Most patients agreed to take the DAST (97%). Race for most of the participants was Black/African American (75%), 22% identified as White, and 3% were Other/Unknown. Less than 1% of participants self-reported to be Hispanic and the majority of the patients were male (60%). About 14% reported homelessness. Despite the early closure of the St. Vincent Emergency Department where the SBIRT program took place, SVCMC was able to link 98 patients to services to address their DUDs.

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. Incarcerated individuals are one of Cuyahoga County's most at-risk populations, including a risk of overdose upon release from jail. 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.

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 them 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

During the last four years, the ExAM program engaged over 2,096 clients, 98% of all clients approached for participation. While the ExAM program was able to refer and link many 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 released from the jail; therefore, they were not always able to connect with them to ensure they had the contact and resource information provided to them upon release to community-based services. While the program made attempts to connect with the clients after release, it was often difficult to locate them.

The Centers (formerly Circle Health Services) enhanced its outreach services within its Syringe Services Program (SSP) by providing better linkages to care for the drug-using community who visited their mobile sites, including integrated health and wellness, workforce development, and early learning and family support for community members across Cuyahoga County. The SSP operates at four 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. Although the number of clients encountered each year slightly decreased in the last few years, Care Coordinators were able to engage and refer most of the clients to treatment services.

The program served primarily white clients (84%) with a smaller percentage of Black/African Americans (7%) and Hispanic (7%) clients. Over the last four years, the SSP engaged 4,531 unique individuals in discussions about treatment services, 96% of all those encountered (n=4,727). All interested clients were referred to treatment services by the SSP Care Coordinator. Detox was the most common referral (28%), followed by Behavioral Health (23%). The Centers also saw an increase in referrals for MAT, especially with the removal of the DEA Waiver. When considering a client's first visit to the SSP and whether they accepted a referral to treatment, White individuals were more likely to accept the referral 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. While there was notable progress in client engagement and 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. However, 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. As part of the harm reduction services offered by the Centers' SSP, Project DAWN kits were made available. Over the last four years, 85% of individuals offered harm reduction services reported having a Project DAWN kit (n=4,006), and 56% of the individuals reported using their last Narcan kit to reverse an overdose (n=2,663).

> *"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*

SOC Crisis and Recovery Services help people successfully link to care. With the closing of many SVCMC services in the last year of the grant, the SOC was brought on 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. During the last year of the grant, SOC encountered 102 clients and engaged 50% of them in discussion regarding treatment services. For many 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 thing 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

CSU's *drughelp.care*, a website-based application that provides recovery resources, has become an established resource tool to the greater Cleveland area over the past four years. 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. *Drughelp.care* has grown during the CCOD2A Initiative, registering more agencies and services than originally targeted. Initially 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 additional treatment services registered on the web app, an 89% increase of treatment services registered on the web app.

"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

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 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 any restrictions/limitation of an agency are known prior to engagement.

Providers and Health Systems Support Systems

This CCOD2A strategy focused on the development of support systems for providers and health systems. MetroHealth, in collaboration with CHA developed: (1) an academic detailing (AD) program for opioid safety and overdose reduction; and (2) a toolkit to expand AD to additional hospitals and nontraditional settings.

> *"... 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*

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. For physicians exclusively practicing in the emergency department (ED), after completing AD education, there was a significant reduction in the number of opioid pills prescribed, a decrease in the number of opioid prescriptions written, and a decline in the combination opioid/benzodiazepine prescriptions issued. Among physicians who primarily serve patients outside the ED, 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.

CHA's web-based Academic Detailing toolkit was developed to increase awareness of and disseminate the AD program. It is part of the Northeast Ohio Hospital Association Opioid Management Toolkit. While there was significant web traffic associated with the AD 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 developing mechanisms to engage more directly primary-care staff and first line care-giving staff.

Through education and training, MetroHealth also 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 prerequisite. 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. 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. During the CCOD2A Initiative, 796 MetroHealth clients were linked to MAT.

"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

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. CHA's work on CCOD2A Initiative identified significant gaps in education relative to SUD treatment with a primary focus on OUD in Cuyahoga County. CHA proactively sought out information from key stakeholders to identify solutions to address these gaps. 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 to these findings, CHA created the *Igniting Compassion* documentary which seeks to dismantle medical stigma around substance use and encourages critical conversations and creative solutions needed to mitigate the ongoing epidemic as told by the perspectives of physicians, nurses, people in recovery, and family members. Since its debut there have been over 3,000 views of the documentary.

CHA also implemented QuizTime, as an innovative framework to engage clinicians. 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. CHA also closely partnered with MetroHealth to raise awareness across hospital systems and FQHCs throughout Cuyahoga County using various forms of outreach including online resources, email engagement, conference presentations, and personalized outreach.

"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

Partnerships with Public Safety and First Responders

The last strategy of the CCOD2A Initiative focused on developing and enhancing partnerships across public safety and first responders, who respond to calls for service associated with opioid overdoses. Law enforcement data regarding nonfatal overdoses provides a wealth of information, including identification of where overdoses are occurring in Cleveland. The Begun Center worked closely with CCBH, Cleveland Division of Police (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. They also engaged Cleveland Emergency Medical Services (CEMS) to share their nonfatal response data. 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. Although the CDP analyst position was not sustained, there continues to be support from the CCPO and CEMS to provide information to MetroHealth's Quick Response Team (QRT) on suspected overdoses that have occurred.

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. While MetroHealth experienced some difficulty 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. 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. Another valuable lesson the MetroHealth QRT team learned during this grant was the importance of connecting with families. 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 [in]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*

As part of the CCOD2A Initiative, The Begun Center partnered with the Ohio Department of Public Safety (DPS) Office of First Responder Wellness to deliver two-hour live online self-care training sessions (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. Unfortunately, the activity was discontinued due to low participation rates. The ADAMHSBCC and the CCBH also provided training to 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 provided 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). Throughout the four years, a total of 1200 law enforcement employees were trained.

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. 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 innovative marketing strategies and revamping the warmline to increase its utilization.

CCOD2A Project Performance Assessment

The evaluation of the CCOD2A Initiative also included a programmatic assessment to evaluate progress made by partner agencies in administering the CCOD2A Initiative through qualitative data gathered from participating agencies. Seven key themes emerged from this assessment: (1) Several CCOD2A partner agencies adapted their service models, resource allocation, collaborations, and responsiveness to new challenges which allowed them to meet the service and education needs of their clients/patients; (2) Agencies also adapted their approach to outreach and linkage to care to ensure that SUD/OUD patients connected to treatment services and maintained engagement, including addressing housing and transportation barriers which had a direct impact on their continuity in mental health and substance use treatment; (3) Throughout the grant agencies continued to explore innovative ideas to overcome challenges, build and expand on previous innovations and deliver harm reduction resources; (4) Challenges in community outreach and engagement efforts were discussed shedding light on the diverse obstacles that hindered their efforts to connect with and support communities; (5) Agencies acknowledged the importance that social determinants of health (SDoH) have on patient mental health and SUD recovery; (6) Knowledge gained and lessons learned were conveyed to various audiences including 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 other opioid-related meetings in the community and the public; and (7) Agencies discussed their plans to sustain and expand activities after the grant period ends to ensure that their efforts continue to positively impact their communities.

Conclusion

The Cuyahoga County CCOD2A Initiative achieved most objectives within each strategy during the grant period. While drug-related deaths remain high throughout Cuyahoga County, through the CCOD2A Initiative there has been an increase in education, awareness, linkage to treatment and distribution of naloxone. Additionally, the number of evidence-based programs available countywide has expanded. A comprehensive surveillance data dashboard was created and made publicly available. Findings from this evaluation highlight the challenging work partner agencies have put forth to address the opioid epidemic in Cuyahoga County and through the expansion of cooperation between public and private agencies they can make an impact in combatting the rise of fatal and nonfatal overdoses. These agencies have touched many lives impacted by the opioid epidemic in Cuyahoga County including those experiencing OUD, their family and friends, first responders, healthcare workers, and others. Despite the notable progress, much work remains given the complexities of addiction and the depth of the opioid epidemic in this region.