Cuyahoga County
Overdose Data to Action Initiative (OD2A)

Year Two Comprehensive Evaluation Report

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Research and Education

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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1) Table of Contents

I. Overview

The Begun Center for Violence Prevention Research and Education (The Begun Center) at Case Western Reserve University (CWRU) serves as the local evaluator for the Cuyahoga County Board of Health (CCBH) Cuyahoga County Overdose Data to Action Initiative (OD2A) funded by the Centers for Disease Control and Prevention (CDC). This report provides a comprehensive evaluation of program activities reported by partner agencies from September 1, 2020 through August 31, 2021.

The information collected from the partner agencies is reported by strategy, then by activity. During Year Two, 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 is for consistency in the monthly data reported from partner agencies, there are differences in data collected from each agency due to the variability in programs and services. Additionally, each agency was asked to describe any delays due to COVID-19 and their responses are summarized in Appendix 8 at the end of this report.

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

ADAMHSB	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
CHS	Circle Health Services
CSU	Cleveland State University
ESC-NEO	Educational Service Center of Northeast Ohio
MetroHealth	MetroHealth Medical Center
NaRCAD	National Resource Center for Academic Detailing
PAXIS	PAXIS Institute
SVCMC	St. Vincent Charity Medical Center
Thrive	Thrive Behavioral Health Center
Woodrow	The Woodrow Project

II. Surveillance Strategy Three

Strategy 3 focuses on developing and implementing innovative surveillance of nonfatal and fatal opioid overdoses in Cuyahoga County to disseminate lessons learned and inform prevention strategies. Efforts focus on the collection and integration of diverse datasets from both public and private data sources. Several data surveillance activities are associated with Cuyahoga County's OD2A Strategy 3. The targeted activities are:

- Link Cuyahoga County data to enhance review and overlay of data to identify high burden areas of opioid overdose deaths and nonfatal incidents;
- Identify trends and patterns of additional risk factors, based on interviews;
- Develop procedures using overdose data to identify prevention and intervention opportunities;
- Use data to identify Quick Response Team (QRT) outreach;
- Use data to identify education and training needs for medical providers;
- Develop a communication network with stakeholders that includes opioid-related trends, periodic reports and data dashboards.

Link Cuyahoga County data to enhance review and overlay of data to identify high burden areas of opioid overdose deaths and nonfatal incidents - CCBH, Begun Center and CCMEO

Surveillance questions for these activities examine ***to what extent can existing data sources be combined to identify specific patterns of opioid overdose death and nonfatal incidents*** and ***how can the linkage of data across platforms and agencies better inform countywide intervention and prevention efforts, especially in high burden areas of opioid overdose death and nonfatal incidents.***

Table 1

Short-Term and Intermediate Outcomes for Overdose Review and Identification of High Burden Areas

Description	YR 1 Data	YR 2 Data	Outcome Status
Increase number of completed DUAs/MOUs	Vital Statistics EpiCenter	Vital Statistics EpiCenter Euclid PD	1. DUAs obtained through ODH in year one remains in place – Vital Statistics and EpiCenter (syndromic). 2. DUA w/ Euclid PD for Public Safety Pilot Data (PSPD) in progress.
Increase the tracking nonfatal overdose related incidents	Vital Statistics EpiCenter CCMEO	Vital Statistics EpiCenter CCMEO PSPD EMS Naloxone Admin	1. EpiCenter data used for monitoring overdose trends countywide. 2. PSPD data requests from local law enforcement continue. 3. EMS naloxone monitored as key indicator on Data Dashboard.
Increase the identification of high burden areas for targeted outreach and education	EMS Naloxone Admin CCMEO/Vital Statistics	EMS Naloxone Admin CCMEO/Vital Statistics PSPD EpiCenter ACS	1. DOIEP provides demographic and geographic details used for targeting outreach. 2. Data Dashboard provides geographic and demographic details using CCMEO and EMS data (zip code level). 3. Analysis of American Community Survey (ACS) Social Determinates of Health (SDoH) data examines census tract level overdose rates (fatal and nonfatal). 4. Analysis of recurring ED visits pinpoints areas with multiple overdoses.
Increase the mapping of opioid-related deaths and nonfatal incidents within Cuyahoga County to determine and target high burden areas	EMS Naloxone CCMEO/Vital Statistics PSPD EpiCenter	EMS Naloxone CCMEO/Vital Statistics PSPD EpiCenter ACS	1. Data Dashboard summarizes data described in this report, including EMS naloxone administration by zip code, CCMEO fatal overdose by decedent residential address, etc. 2. Census tract overdose rates (fatal and nonfatal) calculated as part of high-burden and SDoH analysis. 3. Analysis of recurring ED visits pinpoints areas with multiple overdoses.

Drug Overdose Integrated Epidemiological Profile

In Year Two, CCBH utilized death certificate data provided by the Ohio Department of Health (ODH) to Vital Statistics (VS) to monitor unintentional overdose deaths. VS is the primary data source for CCBH's annual "Drug Overdose Integrated Epidemiological Profile" (DOIEP). The

first DOIEP, published in March 2021, provided a comprehensive review of county-level overdose data, both fatal and nonfatal. Analyses included detailed demographic comparisons and an analysis of drugs causing overdose deaths in the county. The DOIEP also contains a thorough review of nonfatal incident data from the EpiCenter, the statewide syndromic surveillance system. These data are provided by ODH and include suspected drug overdose incidents reported by emergency departments. CCBH monitors EpiCenter daily, and threshold limits are set to alert the health department when thresholds are exceeded, prompting dissemination of an alert to preestablished distribution lists.[1] The DOIEP also includes an analysis of naloxone administered by EMS agencies across the county, which are available at the zip code level. These overdose-related datasets allow the surveillance team to identify demographic patterns and determine areas facing the most significant burden in the county.

The DOIEP (2021) communicated these important statements:

> Males were consistently more likely to die from an unintentional drug overdose death (UDOD) than females and [more likely to] visit the ED for a suspected drug overdose. In 2019, Black males had higher ED visit rates for suspected drug overdose and UDODs than white males. White males between 25-34 consistently had high rates of ED visits for suspected drug overdose and UDODs. Zip codes 44109 and 44102 are the geographic areas that account for the highest number of ED visits and highest number of naloxone doses administered.[2] This correlation shows that naloxone is likely being administered where it is most needed.

Innovative Data Analysis: Multiple Overdose Persons in EDs

Utilizing VS and EpiCenter data CCBH conducted probabilistic matching to link records of (a) individuals visiting the emergency department multiple times due to suspected overdoses from July 2016 to December 2019 with (b) records of individuals who died of an overdose due to drug poisoning during the same period. The goal of the analysis was to gain a more thorough understanding of the burden drug overdoses have in the community and to inform prevention strategies. During this three-and-a-half-year period, 2,238 individuals presented in Cuyahoga County EDs two or more times, and more than 300 individuals were reported four or more times. Of the 2,238 persons presenting multiple times for overdose, 168 (or 7.5%) experienced a fatal drug-related overdose. The published data brief was widely disseminated to stakeholders and is available on the Cuyahoga County Board of Health website (Appendix 1).

[1] Automated alert monitoring of EpiCenter has been unavailable since ODH transitioned back to EpiCenter from ESSENCE. At the time of this report, the status of resuming Epicenter issued alerts is unknown.
[2] Hospital emergency departments report the address of the individual presenting for suspected overdose whereas EMS reports the incident location where naloxone was administered.

Public Safety Pilot Data

The OD2A team continued to gather and analyze EMS and law enforcement incident response data, referred to as public safety pilot data (PSPD). In Year Two, the surveillance team coordinated access to public safety incident data for the top four cities experiencing drug-related overdose death: Cleveland, Parma, and Lakewood and Euclid.[3] Although these drug overdose incidents are not yet available for real-time monitoring purposes, the analyses helped to: (a) identify community-level drug trends, (b) identify geographic hot spots, and (c) provide needed information to harm reduction partners, including Quick Response Teams. Police reports are available through public records requests, and because of this, law enforcement agencies have been willing to provide access to these data. Table 2 provides a year-over-year example of total drug-related incident responses and overdose deaths from 2017 to 2020 for Cleveland, Parma and Lakewood. Data for Parma and Lakewood was provided by their police departments (PD) and Cleveland data was provided by EMS.

Table 2

Overdose Responses and Drug-Related Death in Select Cuyahoga County Cities, 2017-2020

Year	Cleveland EMS Overdose Responses	Cleveland Overdose Deaths (place of death / city of residence)	Parma PD Overdose Responses	Parma Overdose Deaths (place of death / city of residence)	Lakewood PD Overdose Responses	Lakewood Overdose Deaths (place of death / city of residence)
2017	5,236	458 / 384	221	34 / 34	128	22 / 20
2018	4,410	322 / 246	128	31 / 30	93	23 / 20
2019	5,496	377 / 311	159	18 / 20	89	19 / 16
2020	5,242	320 / 258	118	24 / 25	92	19 / 19

Note. Cleveland EMS incident responses for overdose or poisoning can include responses to events other than drug-related OD. Parma and Lakewood PD data only represent suspected drug overdose incidents. The source for "place of death/city of residence" for all cities is the CCMEO, which may differ from data provided separately by Parma and Lakewood PDs.

Coordinating with public safety departments/agencies across Cuyahoga County has proven to be an effective method for accessing suspected overdose incident data. Previous efforts to compile

[3] Parma and Lakewood PDs have continued to share incident data with the Begun Center through another opioid-related grant funded by the Bureau of Justice Assistance; these data can and have been used for countywide analysis and comparisons for OD2A.

incident data for public health surveillance or other data merging efforts have not succeeded or have significant limitations in terms of data detail or dissemination. For example, although CCBH has access to ODMap, data is not being inputted by many agencies within Cuyahoga County thereby limiting the representativeness of the data reported. In April 2021, the OD2A surveillance team coordinated with the Euclid PD to access overdose incident reports. Euclid is located in the northeastern-most part of the county and borders Cleveland. From 2014 to 2020, Euclid experienced the third-highest count of overdose deaths behind Cleveland and Parma. CCBH, Euclid PD, and CWRU, are in the process of finalizing a data use agreement (DUA). Upon execution of DUA, the OD2A team will begin data collection and analysis, and provide a detailed, community-based report similar to a recent BJA-funded community report for the City of Parma Police Department available on the CCBH Overdose Data Dashboard.

In February 2021, the Cleveland Division of Police (CDP) provided updated incident response calls-for-service (date, time, and incident location only) for both CDP and Cleveland EMS (CEMS). The data included all incidents from May 1, 2019 to February 12, 2021. Although these data were limited in that the kind of overdose is unknown or the outcome of the event, the data monitor general trends and provide awareness of where overdoses are occurring in Cleveland. The surveillance team also merged Cleveland EMS and PD incident data with drug-related overdose death reports provided by the CCMEO. The analysis identified locations with multiple overdose incidents being reported by EMS, law enforcement and/or CCMEO. For example, several apartment complexes across Cleveland experienced high numbers of both fatal and nonfatal overdose responses. The analysis also identified single-family residences experiencing as many as ten overdose incidents and multiple fatal overdose incidents within the last few years. Identification of locations, which have experienced high volumes of incident responses, can be used by stakeholders to prioritize intervention, harm reduction, and other activities. To gain routine access to these data and additional reporting, CDP is in the process of hiring an intelligence analyst through OD2A funding. The analyst will begin work for CDP in Year Three. The analyst will focus on accessing, analyzing, and sharing public safety overdose-related incident data from the City of Cleveland.

The surveillance team has not been able to gain access to incident-level EMS data for the entire county. Obtaining these data from the state EMS system for real-time monitoring would better inform an immediate public health response when necessary. Currently Ohio State EMS does consider proposals for data utilization related to research. However, there is no indication when this data will be available for surveillance. Although real-time incident level EMS data is not available, the surveillance team continues to utilize zip code level data provided by state EMS. These data provide aggregate numbers of naloxone doses administered by zip code each quarter for Cuyahoga County for those EMS agencies that report to the state EMS system. This key indicator is used to monitor general trends and geographic areas experiencing the greatest burden

of drug overdose. Information is communicated to the public via the CCBH Overdose Data Dashboard and quarterly bulletins, also available on the website.

Identify trends and patterns of additional risk factors, based on interviews

This activity examines: **(1)** ***whether or not interviewing friends and family members of overdose victims helps identify additional risk factors that can inform prevention strategies, and (2) how the linkage of surveillance data informs and enhances the Overdose Fatality Review (OFR) process.***

Table 3

Short-Term and Intermediate Outcomes for Identification of Additional Risk Factors from OFR

Description	YR 1 Data	YR 2 Data	Outcome Status
Increase the identification of additional risk factors to inform prevention strategies	N/A	In progress	The OUD Specialist at the ADAMHS Board is currently conducting NOK interviews and data is being analyzed to identify common patterns and risk factors.
Increase identification of individuals or target populations in need of prevention and intervention	N/A	NOK Interviews conducted and data is being analyzed Trends and patterns identified as CCMEO reviews OFR cases	
Increase identification of complex risk factors associated with overdose, fatal and nonfatal incidents	N/A	In progress	

The OFR is currently under the purview of the CCMEO and is co-coordinated with the CCBH. The OUD Specialist at the ADAMHS Board began conducting interviews with next-of-kin (NOK) in Year Two. The interview summaries were examined for common patterns and risk factors and are presented in Strategy 5. In Year Three, the CCMEO will hire a program officer who will also assist in the NOK interviews. As more interviews are conducted, trends and patterns of additional risk factors will be communicated to the surveillance team and the Overdose Fatality Review (OFR) committee.

Develop procedures using overdose data to identify prevention and intervention opportunities - CCBH & Begun Center

The surveillance question driving this activity is ***to what extent can existing data sources be linked to identify individuals in need of treatment and services.***

Table 4

Short-Term and Intermediate Outcomes on Identification of Prevention and Intervention Opportunities

Description	YR 1 Data	YR 2 Data	Outcome Status
Increase the use of data to inform, support, enhance and evaluate prevention interventions	EMS Naloxone CCMEO Vital Statistics PSPD EpiCenter	EMS Naloxone CCMEO Vital Statistics PSPD EpiCenter	1. DOIEP provides demographic and geographic data to inform prevention activities. 2. Data Dashboard provides geographic and demographic details utilizing CCMEO and EMS data (zip code level). 3. Analysis of recurring ED visit provides data on number of persons experiencing multiple overdoses and highlights value of hospital or identified EMS data. 4. Analysis of locations experiencing multiple fatal and/or nonfatal overdoses enhances and informs potential prevention interventions. 5. Client referrals and linkages to treatment data is collected from partner agencies and is currently being examined to identify additional opportunities for prevention and intervention.
Increase the identification of additional risk factors to inform prevention strategies	EMS Naloxone CCMEO Vital Statistics PSPD EpiCenter	CCMEO PSPD ACS	1. ACS SDoH data is being used to identify additional risk factors in areas with a high rate of overdoses. 2. DOIEP and client referrals/linkages to treatment data will assist in the identification of additional risk factors.

Identification of High Burden Areas and Perform Geospatial Analyses of Opioid-Related Overdoses for Prevention and Intervention Opportunities

Surveillance data continues to be analyzed to identify high burden areas. Figures 1 and 2, provide examples of geospatial analyses conducted and shared with stakeholders. Data sources used to identify high burden areas include:

1. CCMEO drug-related overdose fatalities in Cuyahoga County;
2. ODH VS data on unintentional drug overdose fatalities for Cuyahoga County residents;
3. EpiCenter data on people who have experienced a suspected drug overdose presenting at hospital ED (Syndromic Surveillance data);
4. Ohio EMS naloxone administration data (EMS naloxone data); and
5. CDP and CEMS public safety incident responses accessed through public records requests from May 1, 2019 to February 12, 2021 (Cleveland PSPD).

Data sources vary in geographic detail and the frequency at which the data are updated and made available to the surveillance team. Drug-related overdose fatality data from CCMEO and ODH vital statistics provide overdose incident injury location (if available), residential address of the decedent, and the location of death. Syndromic surveillance data from can be used to track drug-related overdose incidents for persons presenting in hospital EDs. Data containing patient zip codes can be used to identify locations where substance use may be more prevalent. The Ohio EMS collects naloxone administration data from a majority of EMS agencies (~85%). EMS naloxone data is available at the zip code level and includes the number of naloxone doses administered by EMS each quarter. Cleveland PSPD is used to identify high burden, including address locations where overdoses repeatedly occur, such as homeless shelters or recovery housing (Table 5). Table 6 summarizes the top residential addresses identified by CCMEO for drug-related deaths. Location analysis can be used to target locations in need of harm reduction.

Table 5

Cleveland EMS Most Frequent "Overdose/Poisoning" Incident Locations (May 1, 2019 to February 12, 2021)

EMS Response Location by Type (Address Redacted)	Number of EMS Incidents
Recovery Housing or Shelter (44114)	178
County Jail (44113)	76
Recovery Housing or Shelter (44114)	75
Apartment Building (44113)	48
Recovery Housing or Shelter (44115)	40
Recovery Housing or Shelter (44103)	34
Apartment Building (44104)	24
Gas Station (44120)	23
Bus Station (44114)	22
Single Family Dwelling (44105)	22

Table 6

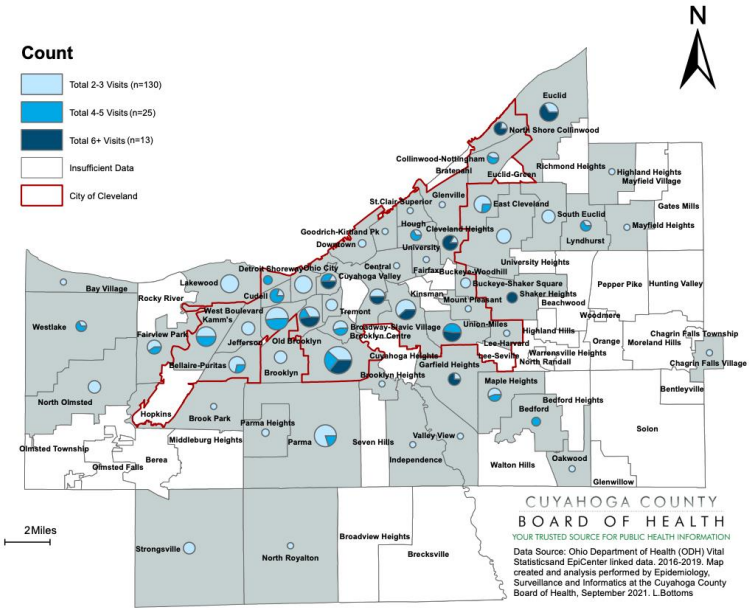
CCMEO Fatal Overdoses by Reported Residential Address of the Decedent (2014 to 2020)

Fatal Overdose Location by Type (Address Redacted)	Number of Fatal Overdose Incidents (2014-2020)
Apartment Building (44113)	8
Apartment Building (44112)	8
Recovery Housing or Shelter (44114)	7
Recovery Housing or Shelter (44115)	6
Apartment Building (44109)	6
Apartment Building (44143)	6
Recovery Housing or Shelter (44111)	5
Apartment Building (44113)	5
Apartment Building (44113)	5
Addiction or Treatment Facility (44102)	5

Figure 1 is taken from the CCBH data brief *Recurring Emergency Department Visits for Suspected Drug Overdoses and Drug Poisoning Deaths: Linking EpiCenter and Vital Statistics data for Cuyahoga County, OH 2016-2019.* The map displays county neighborhoods or cities by the number of persons presenting multiple times to EDs for a suspected drug overdose. Locations identified as the highest-burden in this analysis align with the surveillance team's efforts to identify hot spots, which can be used to coordinate specific neighborhoods, census tracts, or zip codes with harm reduction activities.

Figure 1

Linked ED Suspected Overdose Incident Records by Cuyahoga Neighborhood (2016-2019)

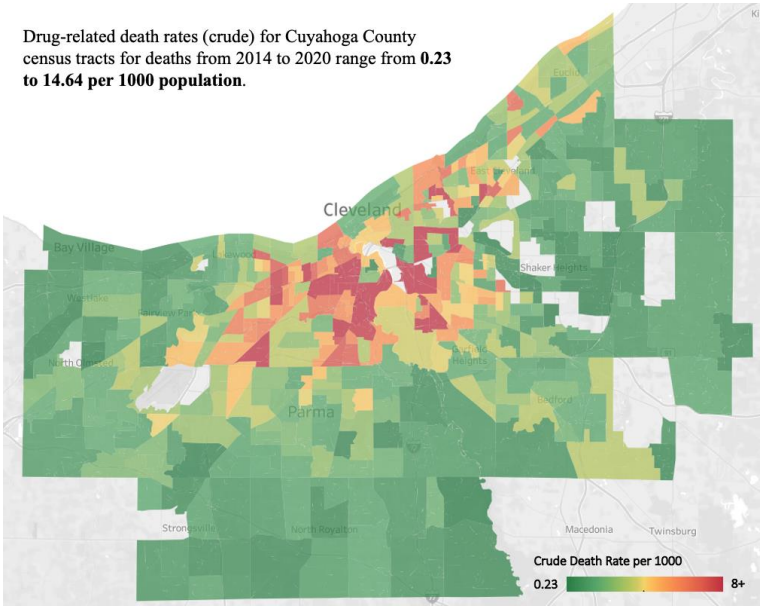


Social Determinants of Health

In Year Two, the surveillance team examined how social determinants of health (environmental conditions) are associated with a drug overdose (fatal and nonfatal) as a health outcome. Analyses were performed to develop overdose death rates and nonfatal overdose incident data at the census tract level. A comparison was then made between death rates by census tract to other environmental risk factors, including poverty, education, and health insurance. These variables often referred to as *social determinants of health*, were accessed from the Census Bureau's American Community Survey (ACS) data for census tract estimates (2015 to 2019). Figure 2 displays drug overdose death rates by census tract for Cuyahoga County; the highest-burden areas are located in the City of Cleveland.

Figure 2

Drug-Related Overdose Death Rates (per 1000 population) by Census Tract: Crude Death Rate Calculated Using ACS Population Estimates (2015-2019) and all Drug-Related Overdose Deaths by Residential Address of Decedent (2014-2020)



These areas also correspond with locations in the county that experience the highest poverty (Table 7).

Table 7

Top 10 (highest death rate) Census Tracts (of 419 relevant tracts) for Cuyahoga County with Associated Estimated Environmental Factors as Reported by the ACS (2015-2019)

Census Tract	OD Death Rate per 1K	Total Pop	% Un-employed	% Below Poverty	% Public Assistance	% Black	% Hispanic	% White	Med HH Income	# of Deaths
104600	14.6	1,024	25.2	48.9	7.6	23.5	50.5	24.4	$17K	15
110801	13.6	955	16.6	39.5	2.8	32.4	14.7	51.3	$26K	13
110501	13.2	681	20.9	48.2	6.7	45.1	9.4	41.9	$17K	9
113101	12.2	656	18.7	34.7	4.6	80.2	7.3	12.5	$14K	8
114600	11.6	945	15.3	43.2	4.7	59.4	2.9	37.8	$28K	11
115700	10.5	1,423	9.4	37.2	9.5	53.9	7.0	36.5	$26K	15
115800	10.4	3,065	19.7	48.2	10.3	52.1	4.8	34.8	$24K	32
102900	10.4	1,924	16.2	37.4	4.4	13.3	46.7	38.9	$35K	20
103800	10.0	1,503	4.2	30.1	2.4	6.7	43.4	44.9	$27K	15
115200	9.8	816	8.2	30.5	15.9	56.6	11.4	29.2	$26K	8

Note. ACS estimates reflect zero or null values for two specific tracts and two variables in the 2015-2019 ACS Planning Database used for this analysis. Crude death rates ("OD Death Rate per 1K") and death counts ("# of Deaths") are calculated using drug-related deaths from 2014-2020 and the 2010 U.S. Census population for census tracts.

Further investigation and dissemination of findings will be accomplished in Year Three. We expect this analysis will:

1) *Identify specific communities for selective interventions.* Although universal intervention activities are needed across the county, selective interventions could be utilized in high burden areas to "deliver specialized prevention services to individuals with the goal of reducing identified risk factors, increasing protective factors, or both." [4]
2) *Respond to requests from partner agencies performing outreach and harm reduction activities*. Thrive Peer Support, the ADAMHS Board of Cuyahoga County and Project White Butterfly have all requested mapping support that identifies "high burden" areas to help plan and perform their respective activities.

Providing additional layers of information, such as household income, poverty level, education level, race/ethnicity, can assist agencies in developing appropriate resources for prevention, intervention, education, and harm reduction. For example, Thrive Peer Support requested

[4] U.S. Department of Health and Human Services (HHS), Office of the Surgeon General, Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. Washington, DC: HHS, November 2016. See: https://www.ncbi.nlm.nih.gov/books/NBK424857/pdf/Bookshelf_NBK424857.pdf

assistance in identifying areas in the county with higher Hispanic populations to ensure they are prepared to meet these individuals' communication needs when providing services in these specific areas.

Use of data to identify Quick Response Team (QRT) outreach – MetroHealth

The surveillance question associated with this activity is ***how can existing data sources be linked to identify individuals in need of treatment and services.***

Table 8

Short-Term and Intermediate Outcomes on Identification of QRT Outreach

Description	YR 1 Data	YR 2 Data	Outcome Status
Increase identification of individuals or target populations in need of prevention and intervention	Public Safety Data	Public Safety Data	Public safety data (law enforcement) records are utilized to identify overdose victims for intervention purposes. Parma and communities west of Cleveland receive support from MetroHealth QRT.
Increase identification of complex risk factors associated with overdose, fatal and nonfatal incidents	N/A	QRT Data	QRT data will provide opportunities to identify risk factors associated with overdose incidents.

During Year Two, the Cuyahoga County Prosecutor's Office (CCPO) Crime Strategies Unit (CSU), using sudden illness reports filed by the Cleveland Division of Police (CDP), provided data for use by MetroHealth's QRT for targeted outreach. Identification, review, and data collection of information contained in the CDP reports was initially done by the CCPO CSU staff and then shared with the Cuyahoga County Sheriff's Office (CCSO) analyst who further reviewed the data and adds information based on additional queries of available databases. The CCSO analyst then forwarded names and addresses of possible overdose victims to the MH QRT for potential outreach. This process is discussed in more detail in Strategy 8 of this report.

Use of data to identify education and training needs for medical providers – MetroHealth and CHA

The surveillance question behind this activity is ***to what extent can existing data sources be linked to identify education and training needs for medical providers on opioid-related trends.*** MetroHealth is using this data to identify prescribers who would benefit from peer review and Academic Detailing. MetroHealth is also sharing their process with the Center for Health Affairs (CHA) who uses the information to enhance its toolkit for other hospitals and nontraditional medical settings.

Table 9

Short-Term and Intermediate Outcomes on Identification of Education and Training Needs for Medical Providers

Description	YR 1 Data	YR 2 Data	Outcome Status
Increase the use of data to inform, support, enhance and evaluate prevention interventions	N/A	PDMP and Hospital EHR	MetroHealth is identifying providers who would benefit from peer review, Academic Detailing and other educational resources based upon their prescribing practices. CHA is working with MetroHealth using this process to create resources to assist medical administrators in identifying providers with prescribing practices who would benefit from training or peer review.
Increase the identification of additional risk factors to inform prevention strategies	N/A		

During Year Two MetroHealth used data reported to Ohio's PDMP and MetroHealth's electronic health records (EHR) system to identify and track patients at risk for opioid misuse as well as identifying high-volume prescribers. MetroHealth is providing educational resources and training to these providers through peer review and Academic Detailing. MetroHealth is also sharing their process with the Center for Health Affairs (CHA) who is using the information to enhance its toolkit that will expand academic detailing and other educational resources to hospitals and nontraditional medical settings.

Develop a communication network with stakeholders that includes opioid-related trends, periodic reports and data dashboards - CCBH and Begun Center

The surveillance question associated with these activities is ***to what extent can data sources be linked and/or combined to better inform stakeholders and the public on opioid-related trends.***

Table 10

Short-Term and Intermediate Outcomes for the Development of Communication Network

Description	YR 1 Data	YR 2 Data	Outcome Status
Increase the transmission of relevant data to CDC to inform public and key stakeholders	N/A	N/A	Transmission of aggregate data will occur once directed by the CDC.
Increase distribution of data to stakeholders and public	CCMEO EpiCenter PDMP/OARRS Project DAWN State EMS CCRFSL	CCMEO EpiCenter PDMP/OARRS Project DAWN State EMS CCRFSL NFLIS Millennium Health PSPD	1. Data Dashboard updated quarterly and available to public 24/7. 2. Quarterly data briefs are disseminated to stakeholders by CCBH. 3. Overdose alerts, fatal and nonfatal, are disseminated by CCMEO and CCBH in near real-time. 4. Requests for data and analysis from OD2A partners are fulfilled routinely. 5. Data sharing and collaboration with HEALing Communities Study is ongoing.

In Year Two, CCBH and the Begun Center continued to explore various data sources associated with drug overdose surveillance: (1) opioid prescribing; (2) drug use, misuse, and substance use disorder and treatment; (3) nonfatal overdose hospitalizations and ED visits; and (4) drug overdose mortality. The data was used to provide a public-facing data dashboard and the development of a quarterly data brief.

Opioid prescribing data is accessed through the Ohio Board of Pharmacy (OBP). OBP provides aggregated prescription drug data by quarter at the county level. The information includes opioids, gabapentin, stimulants, benzodiazepine, and buprenorphine by number of doses, number of patients, and number of prescriptions for each drug type. The surveillance team utilizes opioid prescriptions as the key indicator presented in the quarterly data brief, but all drug types by prescription, patients and doses are available on the data dashboard. In addition, the CCBH team automated the process of pulling publicly available data from the OBP website making access to the data both efficient and accurate.

Drug use, misuse and substance use disorder, and treatment data includes: (1) CCMEO decedent drug toxicology; (2) National Forensic Lab Information System (NFLIS) and the Cuyahoga County Regional Forensics Science Lab (CCRFSL) for drug seizure and drug testing; (3) Project DAWN; (4) Naloxone doses administered by EMS. Data from these databases are used in the development of the DOIEP, data dashboards, and CCBH's quarterly bulletin.

The surveillance team also drafted a detailed data dashboard utilizing publicly available data from NFLIS and incorporated more detailed data available from annual public reports published by CCRFSL. Coordination for the public release of NFLIS data began at the end of Year Two with the NFLIS program office. The expected release of an online publication on the CCBH website is planned in Year Three.

In Year Two, CCBH was approved to utilize Millennium Health's drug testing data. Millennium Health currently provides aggregate drug urine testing results for thousands of patients in Cuyahoga County and across the state and has agreed to provide county-level data on a routine basis to be incorporated into CCBH's public data dashboard. This data provides the surveillance team with illicit drug and prescription medication urine testing. Paired with toxicology data for decedents provided by the CCMEO will improve drug supply monitoring and emerging trends in Cuyahoga County.

Nonfatal overdose hospitalizations data is readily available through EpiCenter, the ODH syndromic surveillance platform. These data are accessed directly by CCBH, who continue to monitor local activity and identify overdose spikes. Additional details regarding the use of EpiCenter data were previously covered in the summaries of the DOIEP and the data brief linking ED incidents and drug-related deaths. Overdose spikes are currently communicated by CCBH to stakeholders through established distribution lists.[5] Information provided includes: (1) date and times of overdose spikes, (2) notice if parallel increases in fatal overdoses are also reported by the CCMEO, and (3) links to resources for substance use treatment.

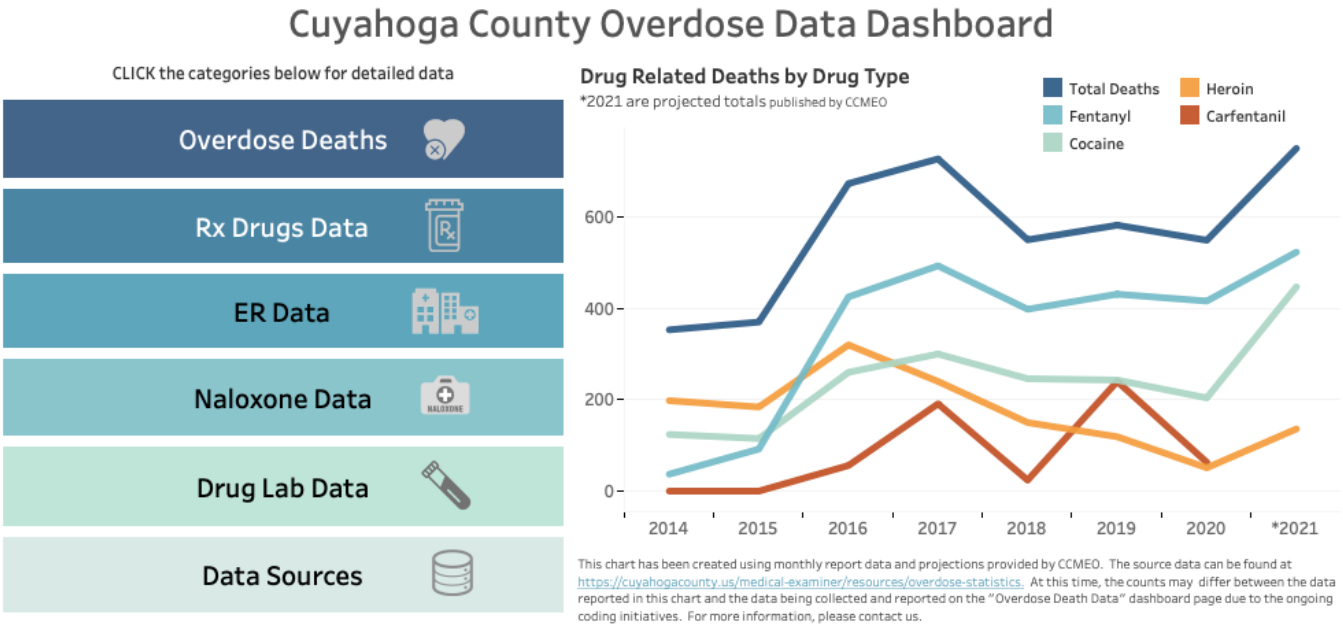
Drug overdose fatality data is accessed through the CCMEO and the VS from the ODH. Although these data sources report drug overdose fatalities in slightly different ways, both have value for surveillance purposes. CCBH has full access to VS data which is comparable to statewide data. However, CCMEO data is utilized for dashboarding due to the ongoing collaboration with between CCBH and CCMEO and because the data is timelier.

[5] The Ohio Department of Health switched to another syndromic surveillance system in (ESSENCE) in Year Two. This caused a lapse in alert notification for overdose spikes. ODH then switched back to EpiCenter later in this year and alerts have been unavailable since the systems were changed and are not yet active at the time of this reporting.

In early 2021, CCBH and the Begun Center completed a public-facing dashboard that provides easy access and review of data mentioned throughout this section. The dashboard was published on Tableau Public in February 2021, and by the end of Year Two amassed over 2,800 views (Figure 3). The quarterly data brief, or "Surveillance Bulletin" was first published in the second quarter of 2020 and continues to be released each quarter (Figure 4). The availability of these surveillance products is routinely communicated during task force and subcommittee meetings. The quarterly bulletin is also emailed to stakeholders by CCBH.

Figure 3

Cuyahoga County Overdose Data Dashboard (Landing Page)



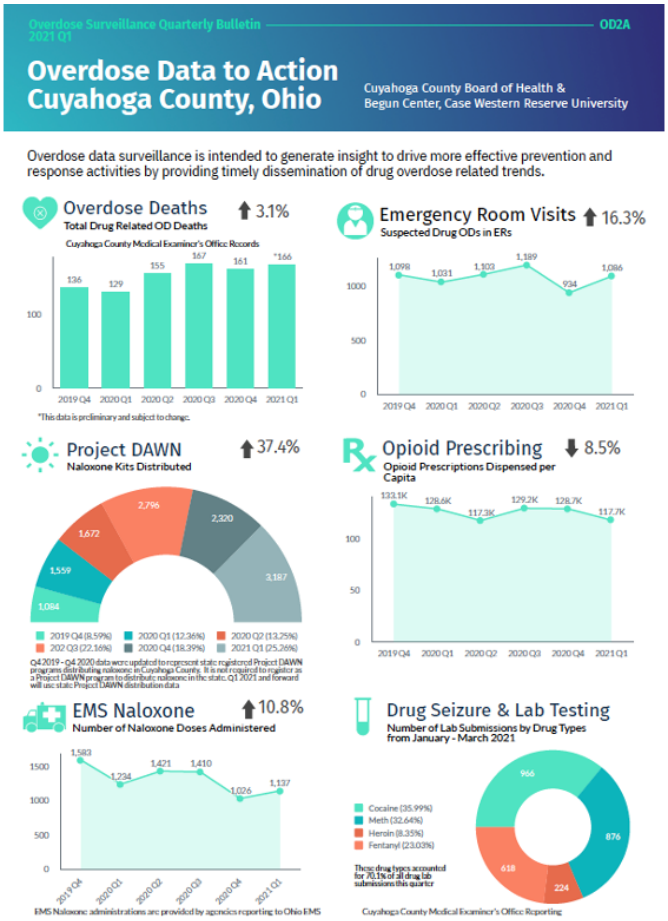
Key Indicators by Quarter *2020 and 2021 Overdose Deaths are projected totals

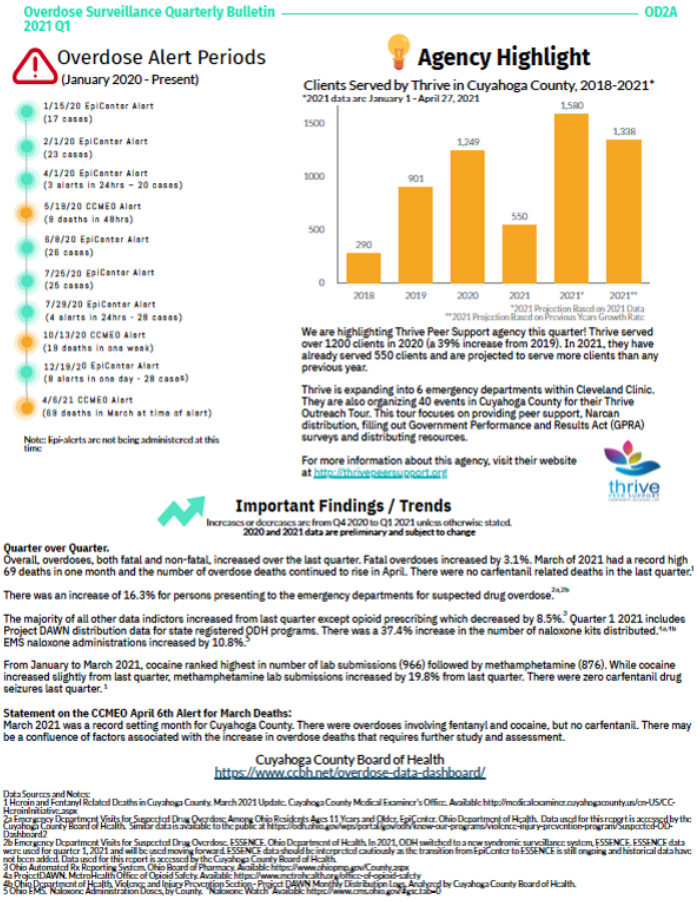
	2019	2020				2021	
	Q4	Q1	Q2	Q3	Q4	Q1	Q2
*OD Deaths	162	▼ 129	▲ 155	▲ 167	▼ 161	▲ 166	▲ 185
% change OD Deaths		▼ -20%	▲ 20%	▲ 8%	▼ -4%	▲ 3%	▲ 11%
ED ODs	1,098	▼ 1,031	▲ 1,103	▲ 1,189	▼ 934	▲ 1,086	▲ 1,161
% change ED ODs		▼ -6%	▲ 7%	▲ 8%	▼ -21%	▲ 16%	▲ 7%
Naloxone Doses (EMS)	1,583	▼ 1,232	▲ 1,420	▲ 1,410	▼ 1,025	▲ 1,137	▲ 1,306
% change Nalox Doses		▼ -22%	▲ 15%	▲ -1%	▼ -27%	▲ 11%	▲ 15%
Opioid Prescriptions (k)	128	▼ 123	▲ 113	▲ 124	▼ 124	▲ 114	▲ 113
% change Opioid Rx		▼ -4%	▲ -8%	▲ 10%	▼ -1%	▲ -7%	▲ -1%
Project DAWN Kits	1,084	▲ 1,559	▲ 1,672	▲ 2,796	▼ 2,320	▲ 3,187	▲ 4,318
% change DAWN Kits		▲ 44%	▲ 7%	▲ 67%	▼ -17%	▲ 37%	▲ 35%

About the Data: This dashboard uses a variety of local drug-related overdose data for visualizations. This project is made possible through partnerships with the Cuyahoga County Board of Health and the Begun Center for Violence Prevention Research and Education at Case Western Reserve University and funding support through the Centers for Disease Control and Prevention. These data are used to support education, outreach and inform data-driven prevention measures.

Figure 4

Overdose Surveillance Quarterly Bulletin





III. Prevention Strategy Four

Strategy 4 focuses on Prescription Drug Monitoring Programs (PDMP). The activities associated with this strategy are:

- Enhance PDMP review and reporting of high-risk clients;
- Develop a toolkit to enhance PDMP through an evidence-based program peer review model to better track opioid clients and prescriptions;
- Expand additional peer review model for educating high-risk prescribers; and
- Expand implementation of PDMP in non-traditional healthcare settings.

Agencies

Center for Health Affairs (CHA)

Cuyahoga County Board of Health (CCBH)

MetroHealth Medical Center (MetroHealth)

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

For this activity MetroHealth is enhancing its management of PDMP data for identifying high-risk prescribing activity to trigger proactive reports to providers for action. The OD2A evaluators are examining to ***what extent does an increase in the implementation and use of the PDMP in healthcare settings decrease the number of opioids dispensed.*** In Year Two MetroHealth revised its definitions of what is categorized as an opioid prescription to ensure that all medications that are identified in its electronic health records system, Epic® as opioids are reported. MetroHealth then updated the data provided to the Begun Center regarding providers utilizing Ohio's PDMP, the Ohio Automated Rx Reporting System (OARRS) prior to issuing a prescription for an opioid. While MetroHealth's attention to ensuring opioid prescriptions issued by its providers were reviewed was a notable accomplishment in Year Two, it did cause some previously reported data for baseline and Year One to change. Those changes are noted in this report. Data collected through Year Two suggests there has not been an increase in the use of OARRS by MetroHealth providers. However, there have been decreases in the number of opioid prescriptions and the number of co-occurring opioid and benzodiazepine prescriptions issued by MetroHealth providers.

Table 11

Short-Term and Intermediate Outcomes for Enhancing PDMP Review and Reporting of High-Volume Prescribers

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Develop algorithms to identify high-volume prescribing activity and protocols to notify providers	Data not previously collected.	2	N/A	N/A	In progress: MetroHealth is refining their algorithms
Increase number of opioid prescriptions where providers checked the PDMP prior to issuing the prescription	47%	↑10%	47%[a]	44%	6% decrease from Year One to Year Two and 6% decrease from baseline
Increase the use of PDMP by providers by 10% (pre/post)	30% [b]	↑10%	31% [c]	28%	7% decrease from baseline to Year Two
Decrease number of co-occurring prescriptions of opioids and benzodiazepines	6614	↓10%	4033	3,055	Decrease of 54% from baseline
Decrease number of prescriptions each year greater than 50 Morphine Milligram Equivalents (MME)	Data not previously collected	↓10%	N/A	16,893	MetroHealth began collecting data in Year Two for baseline purposes.

[a] In the Year One report it was reported as 48%
[b] In the Year One report it was reported as 28%
[c] In the Year One report it was reported as 30%

Define and identify high-risk clients and high-volume providers

MetroHealth continues to design, validate and refine algorithms, and identify reportable database metrics, to more effectively recognize and track high-risk patients and high-volume prescribers. To identify high-volume prescribers, MetroHealth uses reports from Epic® and OARRS data. Providers with individual DEA#'s are reviewed in comparison to others in the same department or specialty. This allows MetroHealth to identify and educate outlying high-volume prescribers. In Year Two MetroHealth revised its definitions for what falls under opioid prescribing to ensure that all medications, identified in Epic®, as opioids are reported.

Analysis of Medical Providers who check PDMP before prescribing

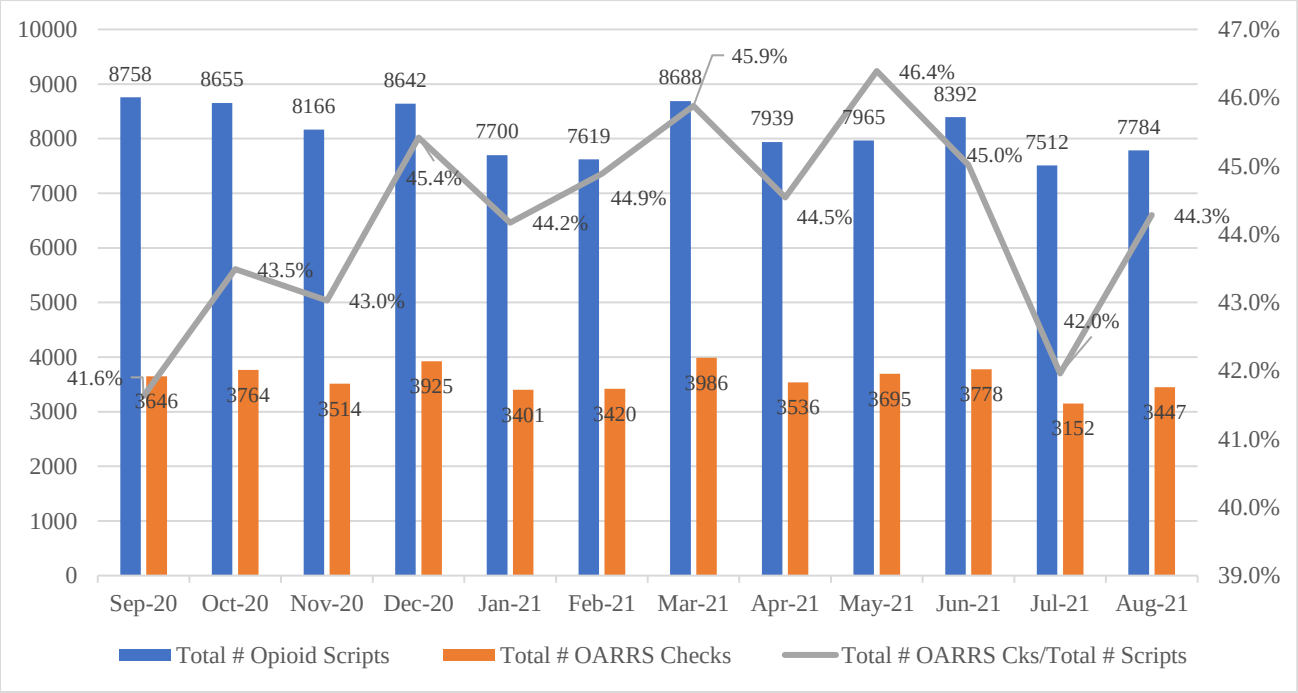
Providers are required by law to review OARRS prior to prescribing opioids, to be self-reported in Epic®. MetroHealth provides data on the number of its providers that issued an opioid

prescription each month and whether OARRS was checked. It is possible that not all OARRS checks are recorded if the provider did not make the notation in Epic®. The data provided by MetroHealth includes all providers and is not broken down by department or specialty. The data also only includes provider activity and is not differentiated by clients; therefore, the number of clients who received prescriptions is unknown during this timeframe and the same client could be reported more than once in the database.

A short-term outcome for this strategy seeks a 10% increase in the number of providers utilizing OARRS. Baseline covers the period of September 1, 2018 through August 31, 2019, wherein 47% of the providers checked OARRS (*n* = 50,773) prior to issuing an opioid prescription (*n* = 107,037). In the next year (Year One), from September 1, 2019 to August 31, 2020, there were 107,357 opioid prescriptions issued by MetroHealth providers of which 51,231 had a notation in that OARRS was checked (47%). In Year Two, from September 1, 2020 to August 31, 2021, there were 97,820 opioid prescriptions issued by MetroHealth providers of which 43,264 had a notation in Epic® that OARRS was checked. This was a decline of approximately 6% from baseline and Year 1, which were equal **Although there was not the expected decrease in PDMP checks noted in MetroHealth's Epic® system, the number of opioid prescriptions decreased by 9% from baseline to Year Two.**

Figure 5

Summary of MetroHealth Provider OARRS Checks When Issuing Opioid Prescriptions



Another intermediate outcome for this activity is the extent to which prescribers increase their utilization of OARRS prior to issuing an opioid prescription. The objective is to increase the use of the OARRS over time by 10% for providers and pharmacists. Currently the review only includes medical providers and not pharmacists. Only those providers where data was available for baseline and Years One and Two were included in the analysis. Baseline covers the period of September 1, 2018 through August 31, 2019 wherein the providers (n = 705) checked OARRS 30% of the time prior to issuing an opioid prescription. In Year One, which covers the period of time from September 1, 2019 through August 31, 2020, these same providers checked OARRS 31% of the time prior to issuing an opioid prescription, an increase of 3%. Results were analyzed using a paired-samples *t*-test. The analysis did not reveal a significant difference between mean levels of OARRS checks prior to issuing an opioid prescription from baseline to Year One, t(705) = .67; p=.50. A paired-samples t-test was also used to compare baseline to Year Two. In Year Two which covers the period from September 1, 2020 to August 31, 2021, the same providers checked OARRS 28% of the time, a decrease of 7% from baseline, t(705) = -1.23; p=.22. This analysis did not reveal a significant difference,

Possible reasons for the decrease rather than increases could be how providers report checking the OARRS in MetroHealth's Epic® system. The procedure at MetroHealth for physicians who

are recording whether they checked OARRS when writing a prescription is for them to enter a "dot phrase" (.OARRS) which automatically populates fields in the Epic® record. When determining whether a provider has checked OARRS prior to issuing an opioid prescription, MetroHealth pulls data from these populated fields. However, if a physician just writes that they checked OARRS in their notes, these fields are not populated, and thus not reflected in the data. This process may explain why we are not necessarily seeing the % increases in whether providers are checking OARRS prior to issuing an opioid prescription. To estimate how often providers are using free text rather than the dot phrase, MetroHealth is currently reviewing provider reporting for a sample of providers. Although reports can be pulled from OARRS regarding a provider's use of OARRS, they are only available for providers who have their own DEA number. Many providers, however, use the generic MetroHealth DEA number, and thus cannot be differentiated in an OARRS report.

To improve provider practice for properly notating in Epic® a completed OARRS check, MetroHealth will be including information on the providers Narcotic Report Cards, discussed more fully in the next section that will display their OARRS checks compared to their peers. In addition, MetroHealth will no longer be giving credit for OARRS checks unless they are using the ".OARRS" phrase. This information will be included on the provider Stewardship Report Cards. Finally, MetroHealth will be educating providers on the importance of using the ".OARRS" phrase rather than free-texting their review. Education will also include MetroHealth's policy and Ohio law regarding OARRS reviews.

Another intermediate outcome is to reduce by 10% the number of co-occurring prescriptions of opioids and benzodiazepines. MetroHealth created an internal dashboard to identify patients using an opioid with an active benzodiazepine prescription. From the period of September 1, 2018 through August 31, 2019 (baseline), 6,614 co-occurring prescriptions were issued by a MetroHealth provider, an average of 551 prescriptions each month. In Year One the number of co-occurring prescriptions decreased to 4,033, an average of 336 per month. **MetroHealth reported 3,055 patients who had prescriptions for both opioids and benzodiazepines in Year Two, an average of 225 per month and a 54% decrease from baseline.** MetroHealth is also seeking to reduce by 10% the number of unique patients with prescriptions greater than 50 MME. Data for this outcome was collected initially in Year Two which will be the baseline. MetroHealth reported 16,893 unique patients having an opioid prescription totaling more than 50 MME in Year Two.

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

The evaluation question associated with this activity is w***hat additional tools can be used to supplement the PDMP to enhance provider adherence to best prescribing practices.*** 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.**

Table 12

Short-Term and Intermediate Outcomes for Developing Toolkit

Description	Baseline	Target	YR 1 Data	YR 2 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	N/A	Peer review, chart review and Stewardship Report Card
Increase the number of reviews of providers for high volume prescribing	Data not previously collected	100	62[a]	331	Achieved
Decrease high volume prescribing behaviors	Data not previously collected	↓10%	67%	66%	No decrease reported

[a]In the Year One report it was noted as 59.

One short-term outcome for MetroHealth in this activity is to identify ways collaboration and communication among medical providers can be improved to increase their use of OARRS. In Year Two, a focus group was convened with MetroHealth staff. Staff were asked how MetroHealth has increased communication and collaboration among providers to increase use of OARRS. Participants noted that in addition to MetroHealth's peer review and chart review, the hospital developed a Stewardship Report Card. This report card is given to each physician who prescribes chronic opioids. 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 morphine milligram equivalents (MME) prescribed to determine whether the physicians were high or low in their prescribing and whether they had patient agreements in place. Staff also noted that while the focus has been opioids, they are also developing a similar process to review stimulant prescribing which can be more difficult as there

are not as many guidelines. While some physicians may not be prescribing opioids, they may be prescribing a lot of stimulants, as one participant noted.

> "Because when [X] would pull the data for me to be able to do the reviews in the chart, it pulls everything from OARRS that's reported: opioid and stimulant. And there were some physicians that actually had absolutely no opioids, but they really did have a lot of stimulants. I think there's just a need to make sure that these guys, just like to opioids, are they educated on how they should be prescribing?"

A best practice model currently being incorporated into the toolkit is MetroHealth's peer review model. All providers at MetroHealth can be involved in the peer review process; however, MetroHealth conducts a more detailed examination for patients who have chronic opioid prescriptions and providers with chronic prescriptions. The Utilization Review Nurse will review the provider's documentation for 10 client files to determine if the provider is following CDC guidelines. The report lists the medications and order date to identify those with more than one prescription on the same day. Stewardship Report Cards are then sent to these providers who prescribe chronic opioids and have had the more detailed review completed. In Year Two, 43 Stewardship Report Cards were issued to providers, 22 provider reports for Family Medicine and 21 provider reports for Internal Medicine. MetroHealth continues to improve upon the design of the report cards.

In addition to peer review, MetroHealth engages in additional measures to identify and address possible high-volume prescribing behavior. One intermediate outcome is to increase reviews of providers for high volume prescribing and to provide them with guidance and educational resource information regarding their prescribing behavior. In Year Two, MetroHealth issued 331 Narcotic Report Cards providers, a total of 393 Narcotic Report Cards issued through this Initiative. An additional outcome measure is to examine their prescribing behavior each year with a goal of a decrease by 10%. In Year One, the first cohort had 62 providers received Narcotics Report Cards. Baseline covers the period of September 1, 2019 through August 31, 2020 wherein 66.5% of the providers ($n = 62$) checked OARRS prior to issuing an opioid prescription (total prescriptions issued = 2,611). One year later, which covers the period of time from September 1, 2020 through August 31, 2021, these same providers checked OARRS 65.6% (total prescriptions =2,877). A *t*-test between baseline and one year later did not reveal any statistical significance (t=0.74, p=0.46).

MetroHealth will also be enhancing its Electronic Health Records (EHR) to increase educational opportunities on linkage to alternative treatment programs for providers. MetroHealth has identified other best practices and plans to develop and enhance a dashboard to capture data.

CHA, CCBH, and MetroHealth are meeting monthly to move the development of this dashboard forward.

Expand Peer Review Model of High-Volume Prescribers to Additional Hospitals - CHA & Expand Implementation of PDMP in Non-Traditional Healthcare Settings - CCBH

The evaluation question associated with these activities is ***to what extent is the peer review model effective in reducing high-volume prescribing behavior within the healthcare setting and to what extent does an increase in the implementation and use of PDMP in healthcare settings decrease the number of opioid doses dispense.*** MetroHealth is assisting 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.

Table 13

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

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Increase the number of providers involved in the peer review process	Data not previously collected	↑10%	0	334	Achieved: Since data was not previously collected any reviews would represent an increase.
Increase the number of hospitals trained on best practice model	Data not previously collected	5	N/A	20	In Progress
Increase the number of hospitals adopting the best practice model (peer review)	Data not previously collected	3	N/A	1	In Progress
Increase number of non-traditional healthcare settings adopting PDMP review	Data not previously collected	1	N/A	CCBH is working with CWRU School of Dentistry	In Progress

During Year Two, CHA worked closely with MetroHealth to develop an academic detailing toolkit, expanded the involvement of providers in the peer review process, and increased the number of medical providers adopting a best practice model. The peer review process

model was published as part of the toolkit in March 2021 and several hospital systems downloaded and trained on the best practice model (n=20). Discussions also began with St. Vincent Charity Medical Center (SVCMC) to expand the peer model into their hospital. However, expansion is currently on hold due to funding issues. During Year Two, 334 providers were involved in the MetroHealth's Peer Review Process.

During this last quarter, MetroHealth and CHA were given permission to adapt a 35-hour opioid course developed at Northeast Ohio Medical University (NEOMED) to 8 one-hour modules that could be delivered to providers and would be enough for providers to obtain or maintain a Drug Enforcement Administration (DEA) waiver.

Working with CHA, CCBH is seeking to enhance the utilization of OARRS data in non-traditional settings such as dental, private medical, and veterinary practices. Education and resource information for these efforts will be included within CHA's toolkit. CCBH is working with Dr. Roger Hess, a practicing periodontist in Cuyahoga County. Dr. Hess has been president of the Greater Cleveland Dental Society, the Cleveland Society of Periodontists and the Ohio Academy of Periodontists, as well as Treasurer of the Ohio Dental Association. Dr. Hess has served for many years as an executive board member and the editor for the Ohio Academy of Periodontists. Additionally, he is an Assistant Clinical Professor at the Case Western Reserve University School of Dentistry. Dr. Hess is an active member of the Ohio Dental Association and has served as a delegate to the American Dental Association. Dr. Hess will serve as the OD2A contact for the CWRU school of dentistry. He has offered to research current curriculum and assist with education and utilization of PDMP data in non-traditional settings.

IV. Prevention Strategy Five

Prevention Strategy 5 focuses on enhancing prevention and response efforts by identifying opportunities for linking state and local resources and entities. Activities that fall under this strategy are:

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

Agencies

Alcohol Drug Addictions and Mental Health Services Board (ADAMHSB)

Cuyahoga County Board of Health (CCBH)

Cuyahoga County Medical Examiner's Office (CCMEO)

MetroHealth Medical Center (MetroHealth)

Previously, the Northeast Ohio Educational Services Center and PAXIS were involved in this strategy. Unfortunately, due to continuing barriers around COVID-19, including some schools remaining remote or hybrid, the activity to expand the PAX evidence-based Good Behavior Game into schools in high-risk neighborhoods has been put on hold indefinitely.

Enhance Overdose Fatality Review, Including Adding Opioid Use Disorder (OUD) Specialist - ADAMHSB and CCMEO

The Alcohol Drug Addiction and Mental Health Services Board of Cuyahoga County (ADAMHSB) is providing support and assistance to the Cuyahoga County Medical Examiner's Office (CCMEO) in its efforts to reestablish 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.*** During Year Two, the OFR has gained access to additional datasets and agency representation which has helped to expand the information gained about each case reviewed. **The target number of OFRs to complete in Year Two was eight and the committee completed 17.**

Table 14

Short-Term and Intermediate Outcomes for Enhancing OFRs

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Number of OFRs completed each year	0	8/yr.	14	17	Achieved
Number of families of decedents interviewed by OUD specialist	0	24	N/A	16[a]	67% complete
Identification of intervention points for treatment	0	2/yr.	7	0	Achieved
Increase in the number of OFR reports completed each year	0	8/yr.	NA	17	Achieved

[a]16 Next of kin (NOK) interviews were completed in Year Two, one of the deaths was ruled a non-opiate suicide. The data from the interview, while included in the total, was not incorporated into the findings.

Incorporate Prescription Drug Monitoring Program (PDMP), investigative reports, autopsy and cause of death (COD) reports into OFR

While Year One focused on streamlining processes, in Year Two, the OFR was able to incorporate new nonfatal overdose incident data from the Drug Enforcement Administration (DEA) and the Cleveland Division of Police (CDP). Additionally, the OFR was able to gain access to rehabilitation histories for some fatalities through the efforts of a CCMEO medicolegal death investigator.

In Year Two, the OFR also invited additional stakeholders to the case reviews, some permanently and others as guests to provide relevant information for a specific case being reviewed. These newly added members and visiting stakeholders provided data sources that would not otherwise have been available (Table 15).

Table 15

OFR Newly Added Data Sources, Year Two

Agency Name	Data Sources
Lutheran Metropolitan Men's Shelter (LMM)	Logistics of the shelter and emerging COVID-19 protocols, including hotels used for physical distancing during the pandemic
Parma Police Department	Criminal histories and law enforcement contacts from a city experiencing a high number of overdoses
St. Vincent Charity Medical Center	Robust medical history for decedents using the hospital system
VA Northeast Ohio Health Care System & Louis Stokes Cleveland	Medical histories of decedents who were veterans and part of the Veterans Affairs medical system

OFR Committee Participation

Participation at the OFR committee meeting was tracked during this past year by agency and the number of attendees from each agency. Due to continued restrictions related to COVID-19, all of the OFR meetings were held virtually in Year Two. Table 16 provides an overview of participating agencies and the number of meetings attended by each agency. Some agencies sent multiple representatives to each meeting, other agencies, the LMM Men's Shelter and the OFR Coordinator from Ocean City, attended single meetings as guests.

Although some agencies were not able to attend many of the OFR meetings, the agencies committed to providing data and background information on OFR cases; CDP and the Parma Police Department are examples of such agencies. The Cuyahoga County Office of Reentry had some staffing changes and a new member began attending the OFR in April of 2021.

The OUD Specialist at the ADAMHSB receives names of the decedent's next-of-kin (NOK) and conducts interviews prior to the OFR. The OUD Specialist presents information about the decedent known to the family during the review.

Table 16

OFR Membership and Attendance, Year Two

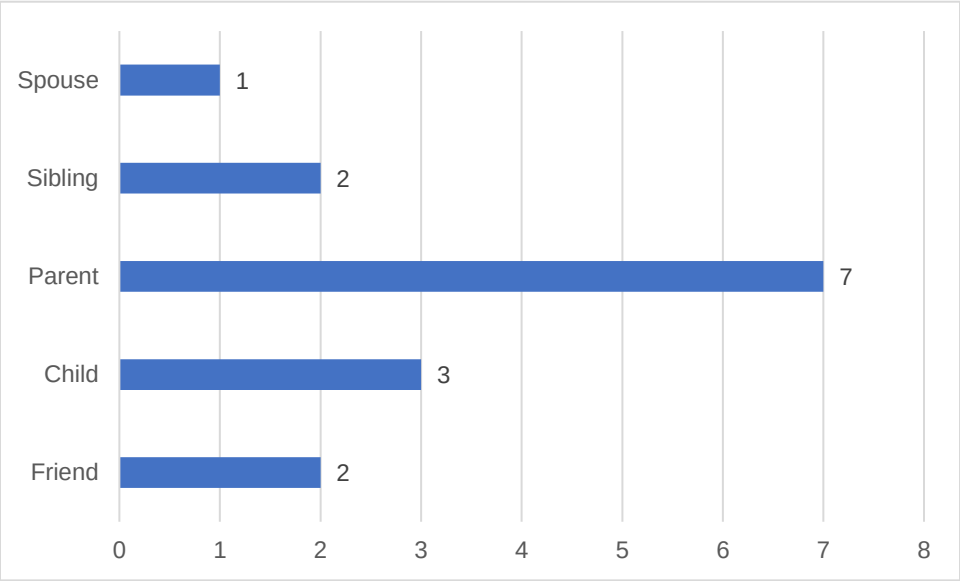
Agency Name	Meetings Attended
Cuyahoga County Board of Health	6
Cuyahoga County Medical Examiner's Office	7
Cuyahoga County Dept. of Family and Children Services	3
Alcohol Drug Addiction and Mental Health Services Board - CC	7
Case Western Reserve University	7
MetroHealth	7
Cleveland Dept. of Health	0
Cuyahoga County Office of Re-entry	3
Cuyahoga County Drug Court	7
WestShore Enforcement Bureau	6
Cleveland Division of Police	2
St. Vincent Charity Medical Center	4
Parma Police Department	1
Lutheran Metropolitan Men's Shelter	1
VA Northeast Ohio Health Care System (VANEOHS) and Louis Stokes Cleveland VA Medical Center	3
Ocean City, NJ OFR Representative	1

OUD Specialist Interviews of Families of Decedents

In Year Two, the OUD Specialist from the ADAMHSB was able to initiate interviews with decedents' NOK after the interview process was put on hold during Year One due to COVID-19. However, some pandemic-related barriers persisted, a hiring freeze at the CCMEO prevented the agency from hiring an additional OUD Specialist and a surge in COVID-19 cases in the county resulted in the OFR meetings occurring every other month instead of every month. To increase outreach to NOK, the ADAMHSB OUD Specialist began interviewing family and friends from non-OFR cases. In Year Two, 79 individuals were approached for interviews, 20 consented, and 16 were completed; a success rate just over 20%. **The ADAMHSB OUD Specialist was able to complete 16 interviews in Year Two, reaching 67% of the target of 24 in three years.** All interviews were conducted by phone and participants received a $40.00 gift card. The majority of NOK interviewed were mothers of the decedents (Figure 6).

Figure 6

NOK Interviewed and their Relationship to Decedents



Barriers and reasons for non-interviews included the NOK refusing to participate, incomplete addresses, out-of-service phone numbers, and outgoing voicemail messages that did not identify the owner. In one case, the NOK was contacted but had not yet been notified of the COD. In another, the COD was ruled a non-opiate suicide, however, the interview was still completed, counted toward the total, but was not analyzed.

Interview Themes

Decedents' NOK were asked a series of questions by the OUD Specialist and their responses to the questions revealed a number of common themes. The full interview script and questions can be found in Appendix 4. Interview questions probed the decedents' substance use history (including treatment), level of education, childhood experiences, education, mental health and medical histories, relationships at time of death, justice system involvement, and history of homelessness. All of the information provided by the decedents' NOK, is to the best of their knowledge. For some decedents, multiple family members were interviewed.

<u>Theme 1: Prior Involvement with the Criminal Justice System</u>

- Eight decedents were incarcerated at some point in their life.
- One decedent had multiple arrests as a juvenile.

- One decedent failed a drug test while on parole and feared going back to jail during COVID-19, this occurred shortly before the fatal overdose.

Theme 2: Relationships and ACES Factors

- Multiple decedents were abused as children, including one who was shot by his father, and others witnessed partner violence growing up.
- Two decedents were adopted. At least four decedents had a familial history of substance use, mainly alcoholism. One was encouraged by their mother to sell drugs.
- While some decedents lacked a support system, others had a strong support system.
- Many decedents had children of their own, including several who were estranged from their children or did not meet their children until later in life. One decedent was unable to have children, another became pregnant for the first time as a teenager, and still others placed their children up for adoption.
- One decedent was described as a "functional addict" whose partner died of an overdose shortly before the decedent.
- Two decedents were homeless.

Theme 3: Education

- Five decedents did not complete high school and two graduated from high school.
- Two decedents earned GEDs later in life.
- Two decedents had college degrees.

Theme 4: Substance Use and Recovery History

- The majority of the decedents had multiple attempts at recovery and approximately half of them experienced a nonfatal overdose prior to death.
- Three decedents were prescribed opiates for pain or post-surgery, including chronic knee pain and a back injury.
- At least four decedents were prescribed medication assisted treatment (MAT) and two of them were selling Suboxone.
- Decedents began using opioids at different stages of their lives, some as early as high school. One decedent had no history of opioid use prior to overdose.
- Multiple decedents' drug of choice was cocaine/crack cocaine.
- Many NOK expressed concerns around the treatment and recovery the decedents received. One decedent received no recovery assistance while incarcerated. Treatment agencies made no efforts to engage the family in their loved ones' recovery. Rehabilitation services were not long enough, and one decedent had a difficult time finding local facilities.

Theme 5: Physical and Mental Health

- Three decedents were diagnosed with bipolar disorder, two with ADHD, three experienced symptoms of depression and anxiety, and for some, mental health issues went undiagnosed.
- Several decedents had prescriptions for lithium, Prozac, and Ritalin.
- One decedent was a military veteran diagnosed with PTSD.
- Three decedents were either diagnosed with suicidal ideation and/or attempted suicide. One had a hospital admission for a psychotic episode.
- Other health issues included cigarette smoking, high blood pressure, diabetes, and asthma.
- COVID-19 had a negative impact for many decedents' health and recovery and one decedent was hospitalized for COVID-19.

Theme 6: Employment

- Two decedents served in the military.
- Many decedents were unemployed, although some decedents experienced extended periods of employment.
- One decedent was a State Tested Nurse Aid (STNA) working in a nursing home and another obtained their commercial driving license (CDL).
- One decedent was engaged in sex work early in life.
- Many decedents were terminated from employment due to substance use.

Some discussions with the NOK revealed unique experiences involving the decedent. For example, one decedent had appealed to their insurance for additional days in detox shortly before their death. Unfortunately, a letter granting their request was not received until after the decedent had overdosed and died.

Identification of Intervention Points for Treatment

A total of seven recommendations came out of OFR activities in Year One. Although no new recommendations were identified this past year, objectives were further defined and additional supporting activities added.

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

Goal 2: Medical Prevention and Treatment
Objective 2.1 Increase the number of Medication Assisted Treatment (MAT) providers
Objective 2.3 Support education and training of medical providers on the illicit use of prescription medications

Goal 3: Linkage to Care
Objective 3.1 Advocate for increased availability for peer support programs to provide outreach to high-risk populations (e.g., individuals experiencing a nonfatal overdose, diagnosed with SUD, or at risk for substance use disorder)
Objective 3.2 Encourage collaborations among first responders and treatment providers to improve linkages to treatment for individuals experiencing a nonfatal overdose

Goal 4: Education
Objective 4.1 Advocate for increased eligibility for drug court and diversionary programs (referrals and eligibility)
Objective 4.2 Support the enhancement of substance use education, including the progression of addiction and polysubstance use, at intervention programs
Objective 4.3 Promote appropriate and targeted communication efforts to increase public awareness of existing and emerging substances

Goal 5: Building System Capacities
Objective 5.1 Promote timely communication system to notify appropriate agencies of nonfatal overdose events
Objective 5.2 Advocate for uniform practices and policies for providing individuals upon release from incarceration at both private and public facilities with treatment resources, naloxone/ fentanyl test strips, etc.

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

Goal 7: Surveillance and Dissemination
Objective 7.1 Routinely disseminate trends identified from the OFR along with supporting data
Objective 7.2 Convene quarterly stakeholder meetings to review recommendations and call for action
Objective 7.3 Enhance case review process by identifying new/relevant OFR participants and data sources (e.g., drug testing companies, hospital partners, law enforcement)

Rapid Response Lay Responder Narcan Distribution Protocol, Responder Training and Naloxone Distributions - MetroHealth & Cuyahoga County Board of Health - CCBH

MetroHealth and CCBH developed a Rapid Response Lay Responder Narcan® distribution protocol for overdose spikes which includes identifying potential hotspots of overdose activity. MetroHealth is providing overdose response trainings to lay responders, law enforcement (LE), and community agencies. This activity also seeks to increase the distribution of Project DAWN (Deaths Avoided with Naloxone) kits. The evaluation question tied to this activity is ***in what ways does the implementation of naloxone education and distribution programs increase participant access to naloxone.*** MetroHealth is providing overdose response trainings to lay responders, law enforcement (LE), and community agencies. During these trainings information on where to access Project DAWN (Deaths Avoided with Naloxone) kits is provided. **In Year Two, the number of Project Dawn kits distributed has increased by 71%.**

Table 17

Short-Term and Intermediate Outcomes for Overdose Response Training and Naloxone Distribution

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Number of lay responders trained on overdose response	Data not previously tracked	200	955	3,970	Achieved
Number of LE trained on overdose response	0	100	48	26	74%
Number of community agency staff trained on overdose response	615	600	202	352	92%
Identify through focus groups provider barriers to distributing naloxone at discharge at ED and Inpatient Units	Data not previously tracked	2	N/A	0	Data for this outcome will be collected via focus groups. Focus groups will begin in Year 3
Increase knowledge gained from overdose response training (pre/post)	Data not previously tracked	10%	0	85%	Survey Data Collection Began July 2021
Increase in naloxone distributions	3,375	3,975	4,804	5,761	Achieved – increase of 53% from baseline

Develop Narcan® Distribution Protocol

Protocols for naloxone administration were developed prior to the start of the grant and act as a template for Naloxone distribution. The protocol includes a 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 3, 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 for the purposes of identifying locations which would benefit from increased distribution of naloxone.

Overdose Response Training

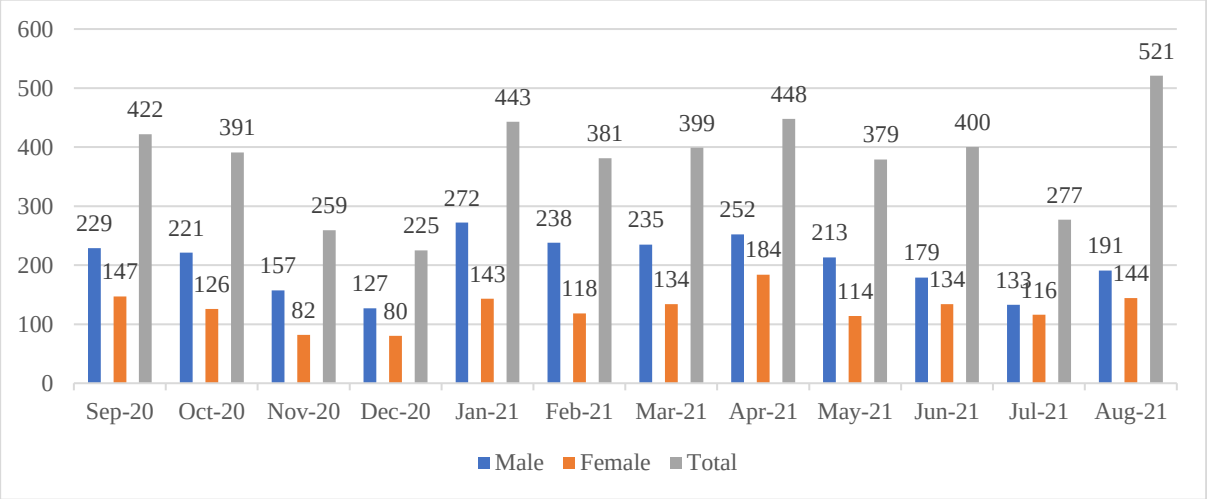
Overdose response trainings were tracked based on the entity receiving the training (e.g., LE, lay responder, service entity).

Number of lay responders trained on overdose response

Lay responder training provides 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 is provided at a number of locations in Cuyahoga County. Individuals who have already been trained can also visit these locations to receive additional Project DAWN kits. Figure 7 depicts the total number of Project DAWN kits distributed via the three walk-in clinics (Hispanic Urban Minority Alcoholism Drug Abuse Outreach Program (HUMADAOP), Circle Health Services (CHS), and CCBH) and the county jail. There are two doses of naloxone per kit. **In Year One, 955 lay responders were provided training on naloxone. This number increased to 3,970 lay responders trained during Year Two.**

Figure 7

Number of Project DAWN Kits Distributed to Individuals by Month



Number of Law Enforcement (LE) trained on overdose response

MetroHealth is projected to host 10 LE trainings with 100 LE personnel through this grant. During Year Two, there was one LE training conducted during August 2021 (4 trainings to date) with a total of 26 attendees (74 LE personnel trained to date).

Number of community agency staff trained on overdose response

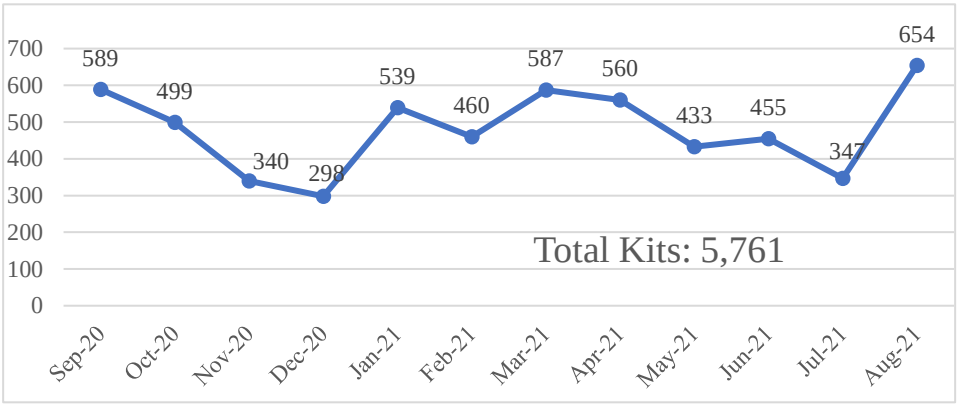
MetroHealth is projected to host 65 trainings with 600 service entity personnel trained during the project. **During Year Two, 40 service entities received training (74 trainings to date) with a total of 352 service entity staff trained this year (505 community agency staff trained to date).**

Increase Naloxone Distribution

Through the OD2A Initiative, MetroHealth is working 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 CHS Syringe Services Program), CHS, CCBH, 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. There was a decrease in overall distribution in the spring due to COVID-19 related delays, but kit distribution increased again in quarter four.

Figure 8

Total Project DAWN Kits Distributed by Month



Increase knowledge gained from overdose response training

In July 2021, MetroHealth began using a survey tool developed by the Begun Center to capture the knowledge gained from the Naloxone training delivered by MetroHealth. Between July 21, 2021 and August 31, 2021, 146 surveys were completed by individuals who received Naloxone training. Of those survey takers who identified their role, 48% were Community Agency Staff (n=64), 22% were Lay Responders (n=30), 14% were Law Enforcement (n=19), 12% identified as Health Care Counselors (n=16), and 3% were Public Health Hospital employees (n=4).

Of the 139 respondents who answered the question about receiving prior naloxone training, 69% (n=96) noted they had received prior training and 31% (n=43) had not. Further, of the 129 respondents who answered the question about prior administrating of naloxone, the survey found that 64% (n=83) had never administered naloxone. The survey also asked individuals to assess their level of knowledge across nine topics covered during the training including: signs and symptoms of an opioid overdose, different methods used to administer naloxone, role/use of rescue breathing when responding to a suspected opioid overdose, etc. At the conclusion of the training, participants were then asked to assess whether the training had "Increased Knowledge" or if there was "No Change" across those 9 topics. Consistently 85% or more of respondents indicated "Increased Knowledge" in each area of the training.

Implement OD2A Quarterly Implementation Roundtable - CCBH

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. In addition to CCBH, the Ohio Department of Health (ODH) and the boards of public health of Franklin (Columbus) and Hamilton (Cincinnati) counties are included within the QIR. Its purpose is 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 will enhance statewide and regional activities. The evaluation question examines ***how Ohio can improve upon state and local efforts to impact surveillance, prevention, and evaluation of opioid prescribing, morbidity and mortality***. Although the objective of the QIR was to meet quarterly, COVID-19 continued to impact the ability of the leadership to meet. In Year Two, two virtual meetings were held. A total of 18 participants attended these meetings from five different agencies.

Table 18

Short-Term and Intermediate Outcomes for OD2A QIR

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Increase the collective impact of OD2A QIR participants	Data not previously collected	10%	N/A	Collective impact survey	In progress
Identification of barriers to sharing and integration of state and local surveillance data	Data not previously collected	TBD	N/A	Identified	In progress
Increase training and technical assistance provided to Partner agencies to assist them in their efforts to address the opioid epidemic.	Data not previously collected	TBD	41	126 TA sessions	In progress
Increase involvement in state and local prevention efforts through OD2A Roundtable meetings	Data not previously collected	TBD	1	2	In progress
Increase 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	Achieved
Number of common data dashboards identified by the OD2A roundtable	Data not previously collected	TBD	N/A	0	In progress

Collective Impact of the QIR

Evaluators from the Begun Center and the Ohio University Voinovich School of Leadership and Public Service were interested in gaining insight from members about their experiences with the different partners involved in this statewide initiative, including the collective impact of this collaborative and identification of barriers and difficulties that impeded the ability of the project to fully understand the needs of individuals affected by the opioid epidemic. This survey also addressed some of the short-term outcomes within Strategy 5: the identification of barriers to sharing, accessing, and integration of state and local surveillance data, and the number of common data dashboards identified by the roundtable.

A survey, adapted from Collective Impact for Public Health Practice, Global Health and Education Projects Inc. (2018) was distributed to 11 members, received six completed responses. Overall, survey respondents agreed that the collaborative is highly functioning (members support each other, are committed to problem-solving, and use technology for data collection) with only a couple of exceptions. The exceptions were the development of an action plan to outline how identified problems within communities will be addressed and results being measured using the same metrics or indicators. There was also indication from some members that the collaborative fails to involve community members when identifying priority areas of need. Table 19 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 awareness of data available at the state level, absence of state EMS data, the ability to house data securely, and how to access data.

Table 19

Barriers to Sharing and Integration of State and Local Surveillance Data

In Year One of the OD2A project, did your agency experience barriers to…	Yes	No	N/A	Total
sharing state surveillance data?	0.00%	33.3%	**66.7%**	100.0%
accessing state surveillance data?	**33.3%**	**33.3%**	**33.3%**	100.0%
integrating state surveillance data?	16.7%	16.7%	**50.0%**	83.4%
sharing of local surveillance data?	**33.3%**	**33.3%**	**33.3%**	100.0%
accessing local surveillance data?	16.7%	**50.0%**	33.3%	100.0%
integrating local surveillance data?	16.7%	**50.0%**	33.3%	100.0%

Sixty-six percent (n=4) of the respondents believed the OD2A Initiative has led to the identification and use of data dashboards, while half (n=3) said the Initiative led to the development of data dashboards, including their own agency creating a dashboard. Two respondents shared the types of data included in their dashboard; SSP, emergency department (ED), overdose, 911 dispatches, and medical examiner's data. Two agencies reported they update their dashboards daily while one said they do so quarterly.

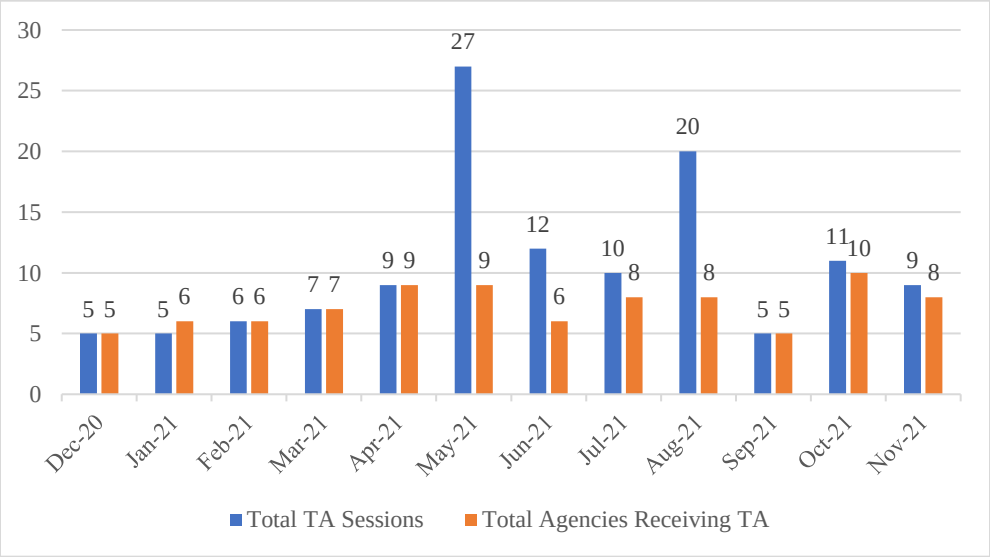
Although QIR members reported identifying and utilizing data dashboards, including the development of their own, zero common dashboards were identified. Efforts will have to be made in Year Three to systematically identify common data dashboards.

Increase training and technical assistance provided to partner agencies to assist them in their efforts to address the opioid epidemic

In Year Two, the CCBH began tracking the number of training and technical assistance (TA) sessions provided to partner agencies. A total of 126 TA sessions were held with the different agencies (Figure 9). Topics covered included: ensuring that data disseminated was presented accurately, the development of supplemental surveys, the development and launch of the CHA toolkit, budget revisions and work plans.

Figure 9

CCBH-Provided Technical Assistance by Month



In April, 2021, The Begun Center administered a survey to gain insight from partner agency staff about their experiences working with various partners involved in OD2A. Members were asked to consider their experiences working with the different partners involved in this Initiative, including information on how they work together and any barriers or difficulties they believe impede the ability of the project to fully understand the needs of individuals affected by the opioid epidemic. A detailed survey report was completed and shared with CCBH and all subgrantees.

The survey, adapted from the Internal Collaborative Functioning Scales assessment[6], was administered via REDCap. The survey link was distributed via email to 36 partner agency staff members representing 11 different agencies. It is worth noting that while ESC-NEO and PAXIS were included due to their involvement during the initiative's first year, their OD2A contract is on hold for the second year due to the COVID-19 pandemic. The survey also was also sent out to staff at the Begun Center, however, as evaluators, those responses were removed from the analysis and report. A total of 28 survey responses were received (77% response rate) and of those, 19 were complete, representing an overall response rate of 53% (Figure 1). Seven survey responses had all of the questions unanswered and two survey responses had only the first two survey questions completed.

Partners we asked to indicate how long they have been involved with the Initiative and employed with their agency. On average, staff had been with their respective agency for just over six years and had been working on the Initiative for a year and a half.

Members of partner agencies were asked to indicate on a seven-point scale how the collaborative is functioning within 12 categories, including: shared vision, goals and objectives, responsibilities and roles, decision-making procedures, changing membership, conflict management, leadership, action plans, relationships/trust, internal communication, external communication, and evaluation. A response of "1" indicates low functioning compared to a response of "7" which indicated high functioning. A "Neutral/Unsure" response was represented by a value of "4."

While most members agreed that in the majority of the categories, the membership was highly functioning, particularly when it came to clearly stated goals and objectives, there were some areas where partners indicated a need for improvement. These areas included, procedures for

[6]Based on Internal Collaborative Functioning Scales, p. 89, in Evaluating Collaboratives: Reaching the Potential (G3658-8). Ellen Taylor- Powell, Boyd Rossing and Jean Geran. 1998. University of Wisconsin-Extension.

changing membership, the development and implementation of action plans, and internal performance evaluation.

Partners also were asked a series of open-ended questions to gauge their views on the impact that the OD2A Initiative has had on the opioid epidemic in Cuyahoga County, including any changes in members' access to and sharing of data. Most respondents indicated a general increase in overall collaboration among County stakeholders, others stated the increase in access to data has had a positive impact on services. Many staff also agreed that the OD2A Initiative was having a positive impact on the community. The survey will be administered again in the spring of 2022.

Media Campaigns to Populations at High Risk for Overdose – CCBH

The CCBH is developing media campaigns targeting populations at high risk for overdose. The objectives include linking clients to clinics, gaining community feedback and support, and decreasing the number of fatal overdoses in Cuyahoga County.

Table 20

Short-Term and Intermediate Outcomes for Media Campaigns

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Create awareness and education campaign for populations at risk of overdose	Data not previously tracked	2	2	0	Achieved
Increase 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	Unable to compare as outreach efforts changed in Year Two

Increase Outreach through Social Media Campaign and Radio Spots

In Year One, CCBH launched two radio campaigns, in Year Two, the focus shifted to social media and leveraging Twitter to increase outreach and awareness of the opioid epidemic. The Cuyahoga County Opiate Task Force Twitter account had a total of 839 followers at the end of Year Two, 14 tweets, 373 profile visits, and 2,916 Tweet Impressions (the total number of times a Tweet has been seen). Although the outcome is to increase outreach through campaigns each year by 10%, in Year One, the focus was on radio spots and in Year Two, the focus shifted to social media; therefore, it is not possible to measure change due to disparate metrics.

IV. Prevention Strategy Six

Strategy 6 seeks to establish linkages to care. The following activities are encompassed within this strategy:

- Expand Thrive peer recovery supporters in the Emergency Departments (ED);
- Expand Project SOAR (Supporting Opiate Addiction and Recovery) to Lutheran and Lakewood hospitals;
- Incorporate Screening Brief Intervention Referral and Treatment (SBIRT) training and practice into existing primary care operations;
- Increase warm handoff to Medication Assisted Treatment (MAT) for at risk-populations – Expanding Access to Medication Assisted Treatment (ExAM) program;
- Enhance *drughelp.care* resource linkage tool; and
- Enhance awareness and outreach efforts of Syringe Services Program (SSP).

Agencies

Circle Health Services (CHS)

Cleveland State University (CSU)

MetroHealth Medical Center (MetroHealth)

St. Vincent Charity Medical Center (SVCMC)

Thrive Behavioral Health Center (Thrive)

The Woodrow Project (Woodrow)

In Year Two, Thrive and Woodrow continued to provide evidence-based peer support services in Cuyahoga County emergency departments (ED). In Year One, SVCMC initiated the use of SBIRT in one of their medical-surgical units (5A) and was able to expand to a second medical-surgical unit (5B). During Year Two, they expanded use of the SBIRT to their Outpatient Primary Care Clinic. MetroHealth continues connecting inmates to MAT via the ExAM Program. Despite the loss of their mobile syringe exchange unit, CHS opened a new location in Rocky River and was able to continue providing harm reduction services and referrals for clients.

To examine how partner agencies facilitate linkage to treatment, the Begun Center collected data on the number of individuals the agencies encounter, how many they were able engage in discussions about treatment, referrals for treatment and the number of individuals linked to treatment. The Begun Center worked closely with these agencies this year to determine how the agencies define ‘encounter,’ ‘engage,’ ‘refer,’ and ‘link’ as each agency has different ways of measuring these outcomes. The following section describes these measures (Table 21) and an overview of client demographics for clients served by this initiative (Table 22). It is important to note that not all individuals encountered will be referred or linked to treatment which could be due to a variety of reasons. If possible, partner agencies attempt to gather additional data from individuals to identify reasons and/or barriers as to why they do not link with treatment.

Table 21

Agency Definition of Encounter, Engage, Refer, and Link

Agency	Encounter	Engage	Refer	Link
CHS	Total encounters with Syringe Services Program participants and engage 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 participate 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
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 who are 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

Demographics and Characteristics

Overall characteristics for the clients served by the OD2A partner agencies are provided. This report includes separate sections for each agency as there are differences in activities and primary indicators across the agencies.

Table 22

Key Demographics for Clients from September 2020 to August 2021

		Peer Support Services Program		ExAM Program	SSP Care Coordination Program	SBIRT Program
		Thrive	**Woodrow**	**MetroHealth**	**CHS**	**SVCMC**
N		878	158	583	2332	302
Age (average yrs., SD)		40.84 (12.37)	36.82(11.89)	35.2(9.6)	39.0(10.7)	51.5(13.4)
Race	White	412	130	416	2174	60
	Black	221	24	119	144	234
	Other	9	3	48	14	8
Ethnicity	Hispanic	51	26	41	193	2
	Non-Hispanic	588	112	541	2139	83
Gender	Male	478	102	441	1572	181
	Female	196	53	142	755	116
	Other	0	0		5	2
Homelessness		108	24	N/A	N/A	N/A
Time spent with Client (average, std)		51.45(59.69)	121.9(80.4)	N/A	N/A	N/A
Encounter		878	158	583	2332	302
Engage (Agree to Participate)		674	157	580	2325	301
Referred to Community Treatment Services		571	152	87	998	115
Linked with Community Treatment Services		436	138	81	N/R except MAT = 57	40

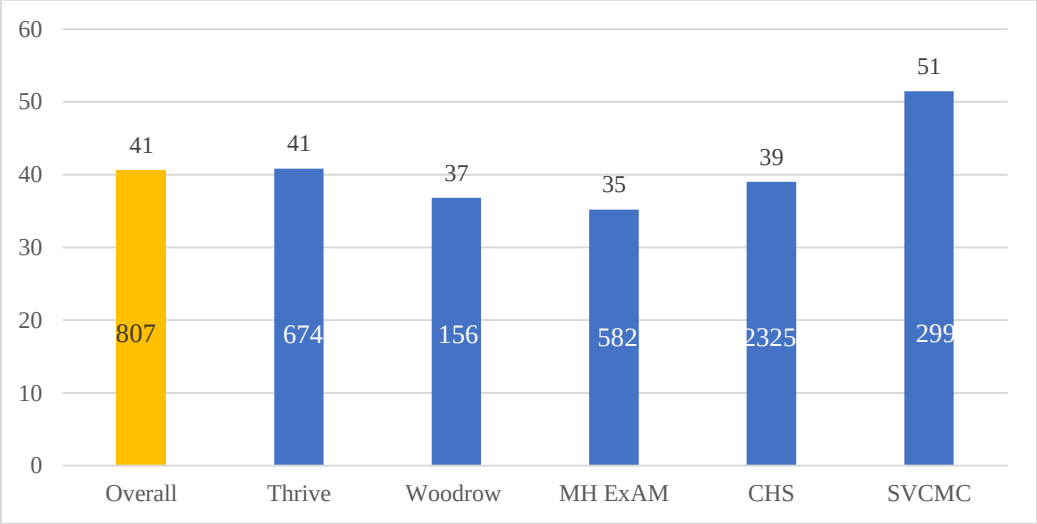
Note. Race, Ethnicity, and Gender have some missing data for Thrive, CHS & SVCMC.
Note. SVCMC data collection since April 2020. Data may include duplicated clients.
Note. ExAM referrals for community treatment represent individuals released from jail, not representative of all clients in the program.
Note. CHS data includes individuals counted only once. Individuals can participate in the SSP Care Coordination more than once.
Note. NA: Not Applicable vs. NR: Not Reported.

Client's Age

Figure 10 shows the average age of clients across the five agencies. The average age of a client is 41 years. The oldest average age is 51 (SD: 13.4) years for SVCMC and the youngest average age is 35 (SD: 9.6) years for MetroHealth ExAM.

Figure 10

Clients' Average Age Encountered by Partner Agencies from September 2020 to August 2021



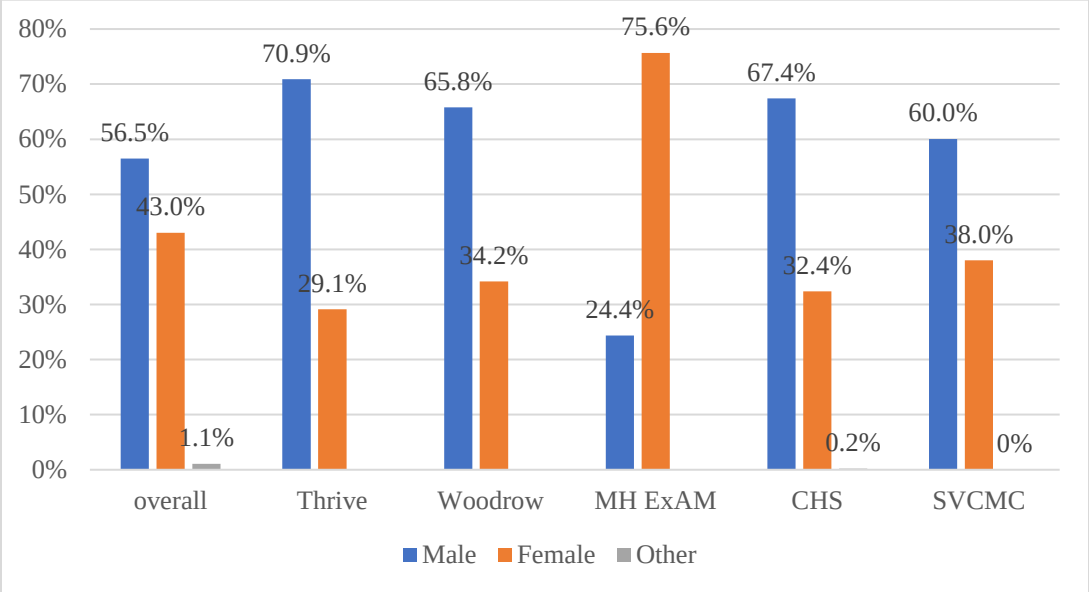
Note. The sample size (*n)* is shown by the number within each bar, with the exception of the overall number, which is an average of encountered clients over all partner agencies.

Gender

Figure 11 shows the gender of clients encountered across the five partner agencies. Of those clients whose gender is known, over 56.5% were male, 43% of the clients were female.

Figure 11

Gender of Clients Encountered by Partner Agencies from September 2020 to August 2021



Race and Ethnicity

For clients whose race is known, about 66.4% of the clients encountered are white and approximately 30.8% of the clients are Black (Figure 12).

Figure 12

Race of Clients Encountered by Partner Agencies from September 2020 to August 2021

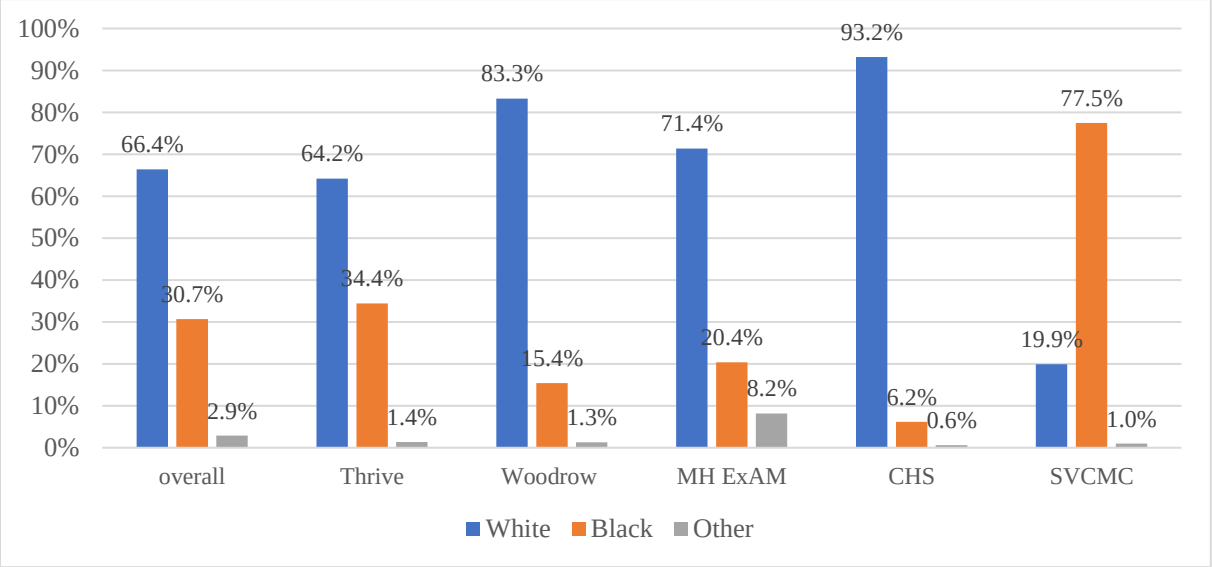
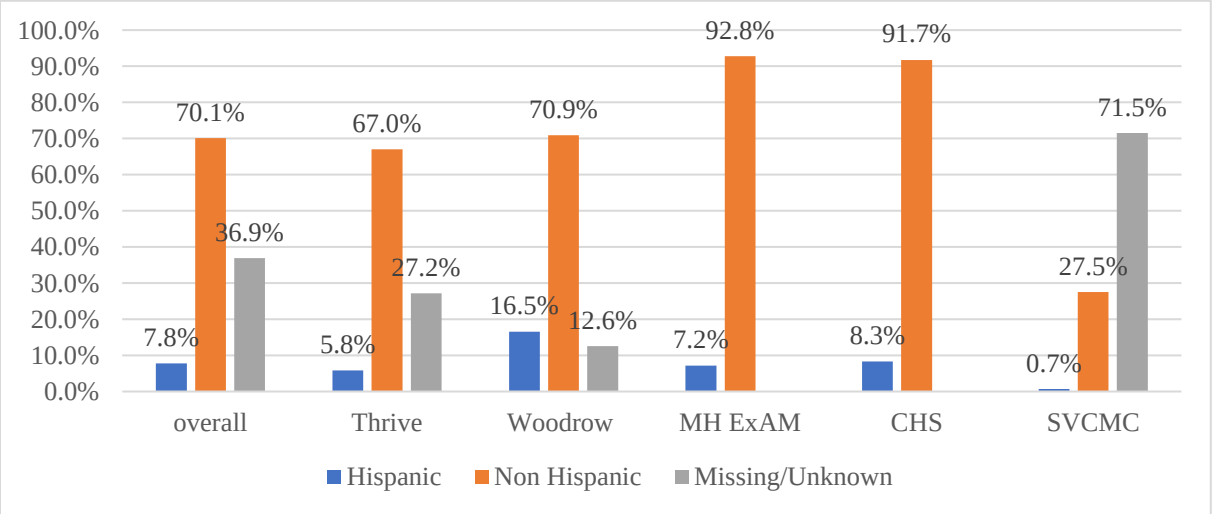


Figure 13 presents the ethnicity of clients encountered by the partner agencies. Of those clients whose ethnicity is known, 70.1% of the clients are non-Hispanic, compared to 7.8% of the clients who are Hispanic.

Figure 13

Ethnicity of Clients Encountered by Partner Agencies from September 2020 to August 2021



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

The OD2A project is working to expand peer recovery supporters to assist more individuals in need of treatment services and link them to care. In Year Two, the OD2A Initiative provided funding for Thrive peer support services in two additional outpatient settings, MetroHealth Parma and MetroHealth Broadway. Data was collected for peer recovery support services within these hospitals. Additional funding for these specific locations was only available in Year Two. In Year Three reporting will only be for services provided at SVCMC along with community peer support that is being provided outside of the ED setting. Woodrow continued Project SOAR at Lutheran and Lakewood Hospitals. The evaluation question for these activities is ***how does the expansion and enhancement of peer recovery supporters (PRS) in local hospitals increase the ability to engage and link clients who have experienced a nonfatal overdose into treatment.*** During the last two years, Thrive and Woodrow have been able to link with treatment 50% and 85%, respectively, of the individuals they have encountered in the ED.

Thrive Key Indicators

Thrive PRS connect directly with individuals (or their family or friends), if they agreedto speak with the peer recovery supporter, who present in the ED with a behavioral health diagnosis (particularly OUD), at SVCMC, MHP and MHB (regular and psychiatric) to ensure awareness of and connection to treatment and other medical and/or social services in the community. Thrive continued to make progress by hiring three additional peer recovery supporters and worked with one ED/hospital in peer recovery support-client linkage. n peer support is required, Thrive on-call staff is notified and arrive at the ED within 30 minutes to meet with the patient.

Table 23

Short-Term and Intermediate Outcomes for Thrive Peer Recovery Support Services

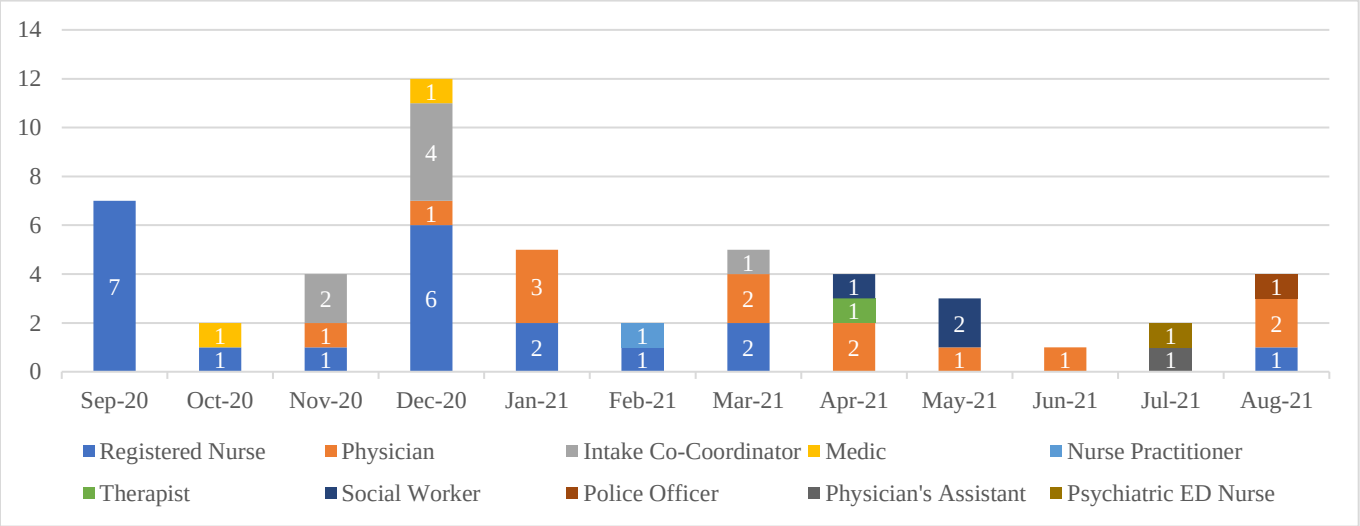
Description	Measure	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Increase the number of support personnel trained on linkage programs and services	Short Term	0	↑10%	43*	51	Achieved
Increase the average time spent by peer recovery supporters with clients	Short Term	0	↑10%	65 mins (average)	51 mins (average)	22% decrease from Year One to Year Two which is likely due to COVID as most communication was done by phone/Zoom
Increase notifications to peer recovery supporters of potential clients (Encounter)	Intermediate	0	↑10%	230	878	Over 100% increase in Year Two due to additional hospitals included in the reporting. However, the addition of these hospitals will not occur in subsequent years.
Increase the number of clients who agreed to participate in the peer recovery program (Engage)	Intermediate	0	↑10%	197	674	In Year Two 77% of the clients encountered by Thrive PRS were engaged compared to 86% in Year One, a 9% decrease.
Increase the number of clients referred to treatment services by peer recovery supporters (Refer)	Intermediate	0	↑30%	132	571	Achieved: In Year Two 65% of the clients encountered were referred for services, compared to 57% in Year One, a 14% increase.
Increase the number of clients linked with treatment (Link)	Long Term	0	↑10%	63	436	Achieved: In Year Two 50% of the clients encountered were linked with treatment, compared to 27% in Year One, an 85% increase.

[a]Incorrectly reported as 75 in the Year One Report.

During Year Two, Thrive trained additional ED staff in peer support services (n = 51) (Figure 14).

Figure 14

Thrive Staff Trained by Month from September 2020 to August 2021



Encounter/Engagement in Program Services

During Year Two, Thrive came into contact with 878 individuals who presented at the ED (Figure 15). With expanded services in MHP and MHB there would be an obvious increase in Year Two in the number of individuals served through the program. When only examining peer recovery support services provided by Thrive at SVCMC as in Year One, Thrive peer recovery supporters encountered 681 individuals an increase of over 100% from the previous year (n=230).

Thrive peer recovery supporters are notified by ED staff of individuals with a behavioral health diagnosis (particularly OUD). Data is 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 ED, but for whom Thrive peer recovery supporters received no referral, and therefore unable to track. This additional data would allow more insight into those who may be overlooked for treatment intervention. Thrive had 24-hour coverage in Year Two, up from 12 hours during Year One. **Of those individuals encountered by Thrive peer recovery support staff, 77% agreed to participate in peer support services *(*n = 674).** When examining only peer support services provided at SVCMC as in Year One, Thrive peer

recovery supporters were able to engage with 84% of the individuals encountered, compared to 86% in Year One.

Figure 15

Encounter/Engagement in Thrive Services from September 2020 to August 2021

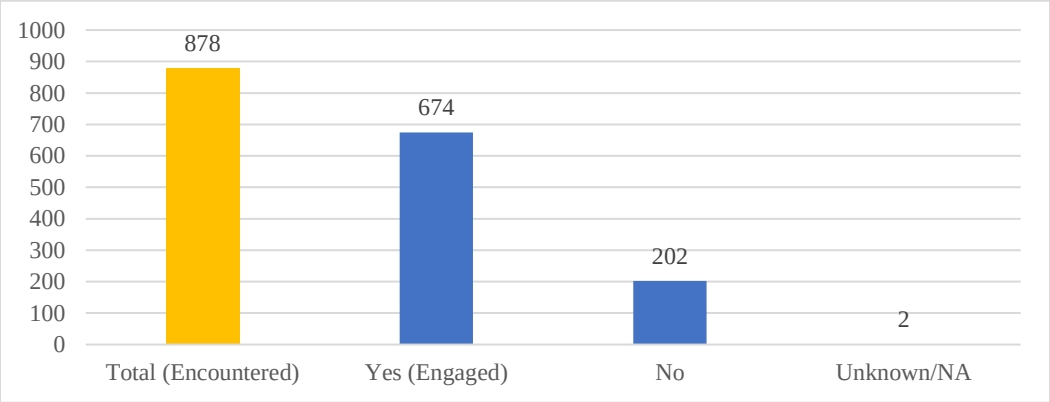
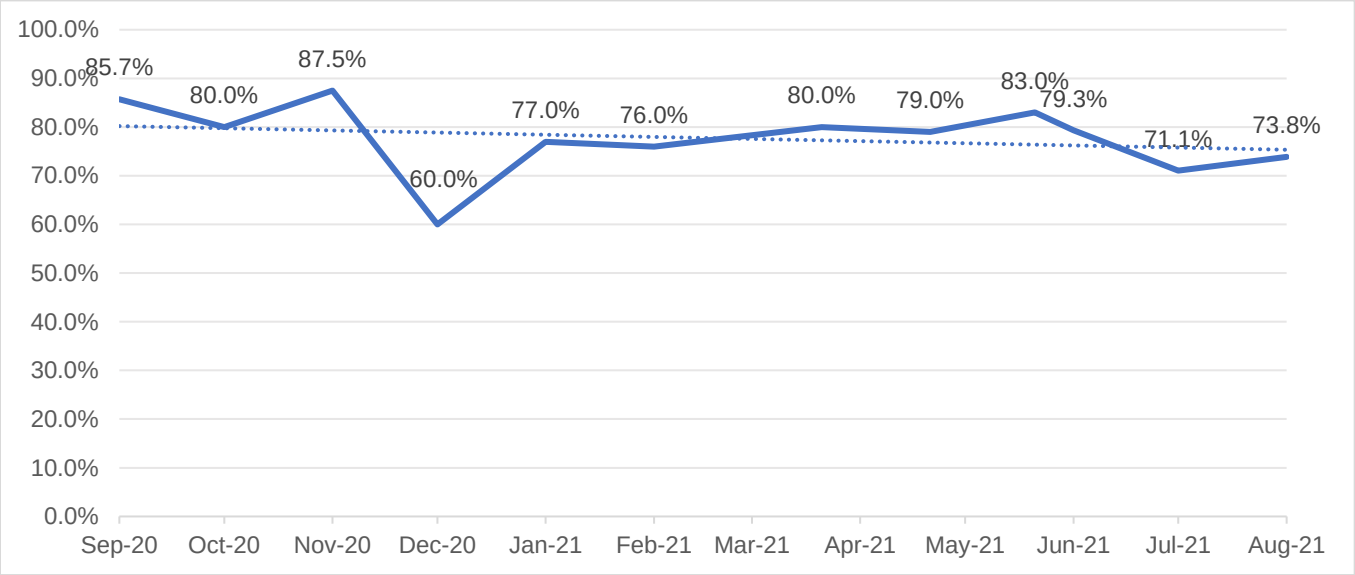


Figure 16 represents the trend line for individuals agreeing to receive peer support services. From September to November of 2020, 80% or more of the individuals Thrive encountered at the ED agreed to peer support services. However, from December 2020 to February 2021, the percentage declined, but then increased to 83% in May 2021. It again declined to 71% in July and reached 74% in August 2021.

Figure 16

Percentage of Individuals Each Month Who Agreed to Thrive Peer Support Services from September 2020 to August 2021

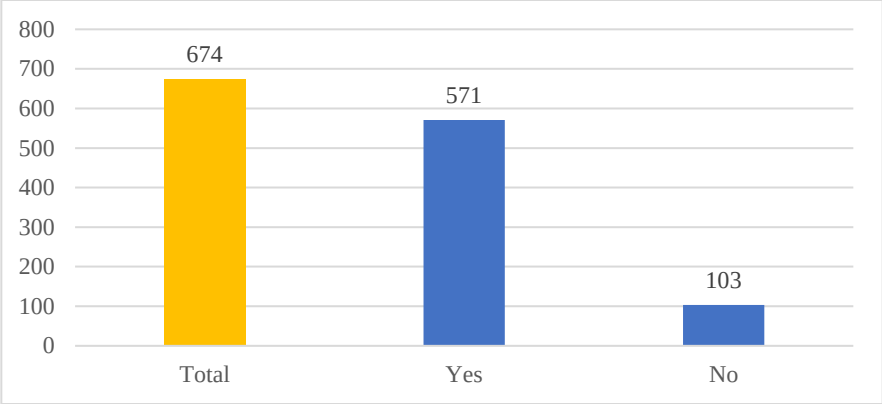


Referral to Treatment Services

From September 1, 2020 to August 31, 2021, 85% of the individuals who agreed to engage with Thrive peer recovery supporters were referred for treatment services (n = 571) (Figure17), 65% of all individuals encountered by Thrive. When examining referrals to treatment for individuals from SVCMC as in Year One, 79% of the individuals encountered by Thrive peer recovery supporters were referred for treatment services, compared to 57% in Year One, a 38% increase.

Figure 17

Clients Referred for Treatment by Thrive from September 2020 to August 2021



Of those individuals who were referred to treatment, approximately 30% (n = 173) were referred to more than one treatment service (Table 24). Of those individuals referred to care, the majority were referred to detox (75%, n = 430) or Inpatient treatment (34%, n = 192).

Table 24

Thrive Treatment Referrals by Type from September 2020 to August 2021

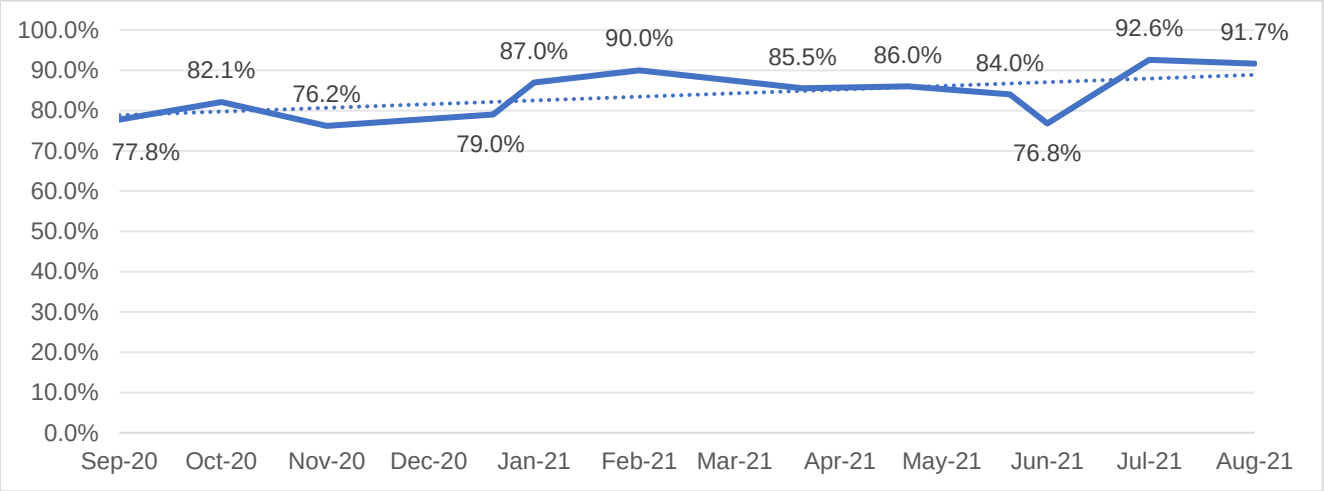
	Count Per Client		Multiple Casesby Client
Types of Referrals for Treatment	**Single- N**	**%**	**Multiple- Ns**
Multiple Referrals	173	30.3	
Detox	279	48.9	430
Inpatient	75	13.1	192
Non-Professional (AA, etc.)	16	2.8	61
Outpatient	21	3.7	71
Medication Assisted Treatment (MAT)	7	1.2	21
Total	571	100	775

Note. Clients could be referred to more than one service.

Figure 18 represents the trend line for referrals to treatment as a percentage of individuals engaged by Thrive in the ED setting. **The trend since January 2021 has generally shown increases (except for a dip in June 2021) in the percentage of individuals engaged being referred to treatment services.**

Figure 18

Thrive Treatment Referrals Trend Line by Month from September 2020 to August 2021

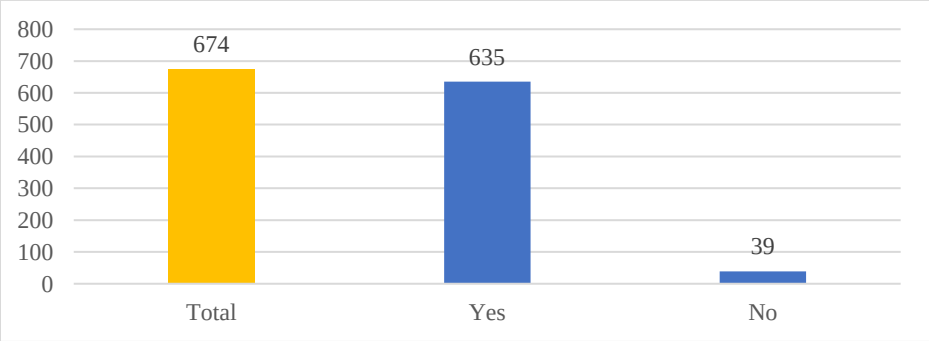


Referral to Other Services

In addition to referrals for treatment services, many Thrive clients were referred for additional services (94%, n = 635) (Figure 19).

Figure 19

Number of Clients Referred to Other Services by Thrive from September 2020 to August 2021



The majority of the non-treatment referrals were for community peer support, housing and shelters and Aid to Dependent Children/Temporary Assistance for Needy Families (ADC/TANF)/Food Pantries/Food Stamps (Electronic Benefit Transfer (EBT) card) (Table 25). Please note a client could have been referred for more than one type of non-treatment service.

Table 25

Thrive Client Referrals for Other Services from September 2020 to August 2021

Other Service Referrals	Multiple Cases by Client	
	Multiple-Ns	**% of referrals**
Community Peer Support	**634**	**93.1**
Housing/ Shelters	**16**	**2.3**
ADC/TANF/Food Pantries/Food Stamps (EBT card)	**11**	**1.6**
Transport assistance	**1**	**0.1**
Other Services (Dialysis, Phone Service)	**2**	**0.3**
Clothing	**6**	**0.9**
Employment/Education Services	**2**	**0.3**
Children and Family Services	**1**	**0.1**
Medicaid/Medicare assistance	**5**	**0.7**
Child Support/ Child Care	**2**	**0.3**
SSI/SSD	**1**	**0.1**
Total	**681**	**100.0**

Note. Clients could be referred to more than one service.

Linkage to Treatment

Of those clients who were referred to treatment (n = 571), 76% (n = 436) were known to have linked with treatment services (Figure 20), 50% of those clients encountered by Thrive. The majority of clients, 96% (n = 419,) were linked to asingle treatment service (Table 26). Of those individuals linking to care, 82% of the clients were linked to detox (n = 371), 16% to Inpatient (n = 73), 1% to Outpatient (n= 5), and 1% to Medication Assisted Treatment (n = 5). **When only examining individuals from SVCMC as in Year One, 62% of the clients encountered by Thrive PRS were linked to services, over 100% increase from the previous year (27%).**

Figure 20

Thrive Linkage to Care from September 2020 to August 2021

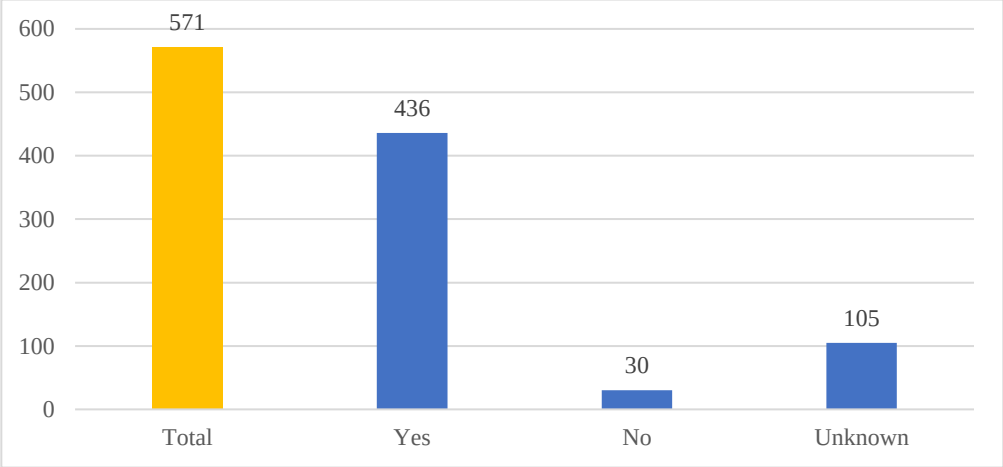


Table 26

Thrive Treatment Linkage Types from September 2020 to August 2021

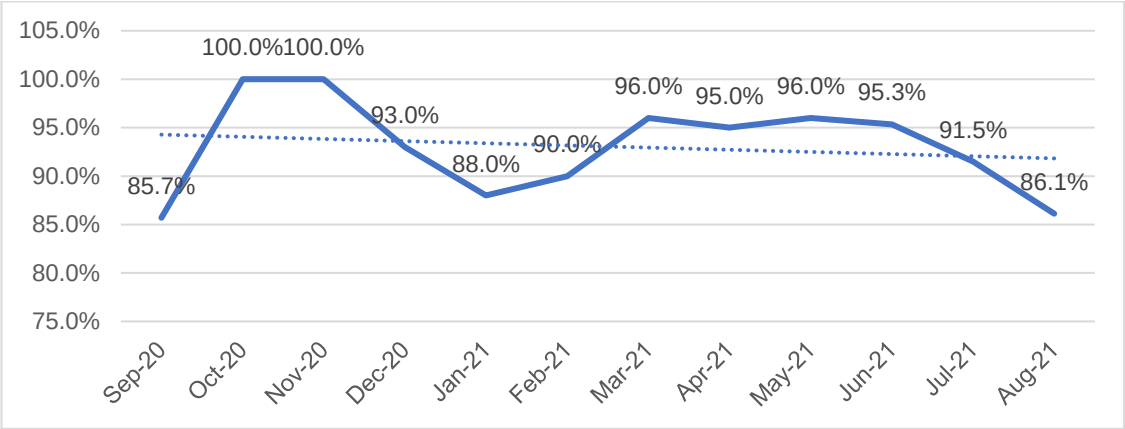
Types of Linkage to Treatment	Count Per Client		Multiple Cases by Client
	Single-N	**%**	**Multiple-Ns**
Multiple-Linkages	17	3.9	
Detox	354	81.2	371
Inpatient	57	13.1	73
Outpatient	4	0.9	5
MAT	4	1.0	5
Total	436	100.0	454

Note: Clients could be referred to more than one service.

Figure 21 represents the trend line for the percentage of Thrive clients linked to treatment. The overall trend line decreased during the last reporting period. **During the last quarter, linkage to care decreased by 10%.**

Figure 21

Thrive Linkage to Care Trend Line by Month from September 2020 to August 2021



Thrive clients cited varied reasons for not linking with a referred treatment service. Unavailability of beds (n=8), client's unwillingness to engage into treatment (n=4), and lack of ID or insurance (n=4) were the most common reasons. Other reasons for clients not linking with treatment services are listed below (Table 27).

Table 27

Reasons Thrive Clients did not Link with Treatment Services from September 2020 to August 2021

Types of Reasons	Frequency	%
Client did not want to engage in treatment	4	12.9
There were no beds available for client	8	25.8
Client had ID/insurance issues	4	12.9
Client was admitted to the hospital	3	9.7
Client was referred to other services (shelter)	1	3.2
Client did not agree to the referral	2	6.5
Client did not qualify for treatment (levels too low)	1	3.2
Client wanted more information about the treatment	1	3.2
Treatment center not open at that time	1	3.2
Client got violent	1	3.2
Unknown	5	16.1
Total	31	100.0

Note. Clients could give more than one response.

Transportation to Treatment

Thrive offers transportation services to all individuals that qualify for services after completing the initial screening survey. Out of the total eligible individuals, Thrive transported 196 people to treatment and seven people to other services.

Thrive Year Two Supplemental Evaluation

As part of an additional evaluation component in Year Two, Thrive surveyed clients participating in Thrive's community peer support program after 30 days and 90 days. The purpose of the surveys was to collect information directly from clients participating in the community peer support program, gathering feedback on services provided, examine social behavior, and understand client concerns. Thrive contacted 523 clients for their 30-day follow up, a response rate of 31% (n=163). For their 90-day follow up survey, 57 out of the 265 clients (21.5%) provided responses. Of these 57 clients, 16 also completed the 30 day follow up. **Findings from both the 30-day and 90-day surveys demonstrate that most clients maintained a relationship with their PRS, and the majority met with their PRS regularly on a weekly basis.** The clients expressed satisfaction in meetings with their PRS, treatment goals outlined, access to services, and overall support and assistance provided by Thrive (Table 28).

Table 28

Meetings with Thrive Peer Recovery Supporter (PRS)

	30 day (n=163)				90 day(n=57)			
Survey Question	**Yes**	**%**	**No**	**%**	**Yes**	**%**	**No**	**%**
Do you maintain relationship with PRS?	149	91.4	14	8.6	49	86.0	7	12.3
Did time with PRS help with goals?	141	86.5	4	2.5	49	86.0	3	5.3
Was time spent with PRS enough?	131	80.4	21	12.9	47	82.5	6	10.5
Is it easy to make appointment with PRS?	143	87.8	6	3.7	50	87.7	2	3.5
Are you able to meet with PRS as needed?	142	87.1	9	5.5	47	82.5	5	8.8
Has Thrive been helpful with accessing services?	132	81.0	15	9.2	46	80.7	5	8.8
Are you satisfied with goals outlined in Thrive t/t plan?	154	94.5	0	0.0	59	93.0	1	1.8
Are you currently in recovery?	136	83.4	19	11.7	48	84.2	4	7.0
Do you see yourself continuing work in recovery?	135	82.8	2	1.2	45	78.9	2	3.5

Note. Unknown/Not Applicable values excluded from table.

Table 29

Frequency of meeting with Thrive Peer Recovery Supporter

How often do you meet with your PRS?	30 day (n=163)		90 day(n=57)	
	N	**%**	**N**	**%**
Daily	24	14.7	8	14
Weekly	108	66.3	32	56.1
Every Other Week	12	7.4	6	10.5
Monthly	2	1.2	3	5.3
Other	3	1.8	0	0.9
Unknown / NA	14	8.6	8	14.0

Over 84% of the clients at the 30-day and 90-day follow up expressed satisfaction with the services provided by their Thrive PRS. Clients found peer support to be helpful in their recovery. Personal relationships, health and well-being, and leaving their old life were the most common reasons to continue recovery. As one client stated, "I would have had a much better life, I have many regrets, but there is still hope." Clients also cited different factors that kept them in recovery:

- Family, friends, and social supports
- Health and well-being, better life, happiness
- Sobriety and mental health
- Tired of old life, wanting a new life, freedom, avoid pain or fear of dying
- Peer support, other support groups, mental health provider, Intensive Outpatient Services
- Religion
- Myself
- Fear of jail or homelessness

Clients also noted factors that could make them go back to misusing drugs again. Fortunately, one of the most common response was that there were no factors:

- Nothing can make me go back
- Wrong people, company, or choices
- Mental health or negative mindset
- No progress or recovery
- Weakness, giving up or no hope
- Triggers or stress
- Personal loss, trauma, or losing family
- Not taking care of oneself, health issues

- Homelessness, no income
- Anything
- Isolation, loneliness or boredom
- Work
- Not sure

Clients were asked about concerns or barriers related to engaging or maintaining treatment. While many clients did not express any concerns about engaging in treatment at the time of follow up (44% at 30-day and 62% at 90-day), a number of clients did not feel the need to engage in treatment as they had PRS (19.5% at 30-day and 7% at 90-day). Some clients feared losing friends, embarrassing family or being stigmatized if they engaged in treatment for their drug use. One client reported, "I will lose my friends if I go to treatment, people will stigmatize or stereotype me if I go to treatment". Other concerns related to physical and mental health issues or prior unpleasant experiences. A majority of clients at 90-day follow up and about 37% at the 30-day follow up did not experience any barriers related to treatment. About 5% of the clients at the 30-day follow up said that they did not want to discuss their personal lives with others. Transportation, mental and physical health issues, child care/after care, and legal issues were common barriers reported by the clients.

At 30-day follow up, 64 clients (39%) were engaged in treatment such as inpatient, outpatient and MAT. In addition, over 68% clients in both surveys reported receiving social services such as food stamps, SSI/SSD, Medicare, Medicaid, etc. Living conditions of the clients responding to 30-day and 90-day follow up is provided in Table 30.

Table 30

Thrive Clients Living condition in past 30 days and 90 days

Living Condition	30 day (n=166)		90 day(n=61)	
	N	**%**	**N**	**%**
Own house/apt, living alone	51	30.7	16	26.2
Living with family/ friend, in own/their house	33	19.9	8	13.1
Transitional housing	33	19.9	17	27.9
Sober living	11	6.6	3	4.9
Living rough	1	0.6	0	0.0
Drug source's apt	0	0.0	1	1.6
Treatment center	1	0.6	3	4.9
Other	2	1.2	0	0
Unknown/NA	34	20.5	13	21.3

Note. Clients can indicate more than one response

Some clients continued to use illicit drugs, 19 clients (11.6%) in the past 30 days and 2 clients (3.5%) in past 90 days. Prescription medication use was reported by 59 clients (35%) at 30 days and 25 clients (43.8%) at 90 days. Hospitalization due to substance use was reported by 3 clients ay 30 days and 2 clients at 90 days follow up. Only one client reported being jailed in past 30 days. A majority of the clients responding to the surveys also believed that the people using drugs are treated differently by society (68% at 30-day and 67% at 90-day) and are stigmatized because of their drug use (66% at 30-day and 63% at 90-day).

Woodrow Key Indicators

Woodrow uses a PRS on-call model called Project SOAR. Project SOAR provides services in the Cleveland Clinic Lakewood and Cleveland Clinic Lutheran Hospital EDs. Although Woodrow continued to expand Project SOAR and provide peer support services, it has been doing so virtually in Year Two due to COVID-19. The hospitals received iPads programmed to call a Project SOAR phone that is in service 24 hours, seven days per week. Individuals who agreed to speak Woodrow staff are then connected directly with a peer recovery supporter.

Table 31

Short-Term and Intermediate Outcomes for Woodrow Peer Recovery Services

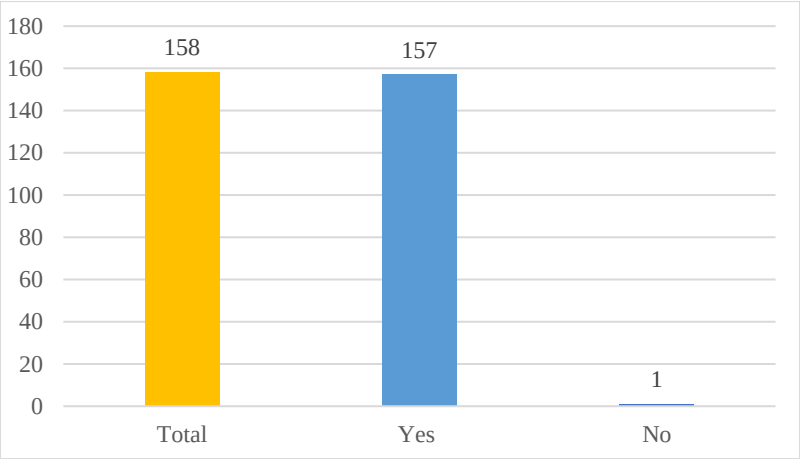
Description	Measure Type	Baseline	Target	Y1 Data	Y2 Data	Outcome Status
Increase the number of support personnel trained on linkage programs and services	Short-Term	0	↑10%	30	1	Achieved as all support personnel have been trained
Increase the average time spent by peer recovery supporters with clients	Short-Term	0	↑10%	117 mins (average)	122 mins (average)	4% increase from Year One
Increase notifications to peer recovery supporters of potential clients (Encounter)	Intermediate	0	↑10%	178	158	11% decrease from Year One
Increase the number of clients who agreed to participate in the peer recovery program (Engage)	Intermediate	0	↑10%	178	157	In Year Two 99% of clients encountered by Woodrow PRS were engaged, compared to 100% in Year One.
Increase the number of clients referred to treatment services by peer recovery supporters (Refer)	Intermediate	102	192	174	152	In Year Two 96% of the clients encountered were referred by Woodrow PRS for services compared to 98% in Year One.
Number of clients linked with treatment (Link)	Long Term	0	↑10%	150	138	In Year Two 87% of the clients encountered were linked with treatment services compared to 84% in Year One, a 4% increase.

Encounter/Engagement in Program Services

During this last year Woodrow encountered a total of 158 individuals who presented at the ED (Figure 22), compared to 178 in Year One. Data are only available for those individuals for whom Woodrow received notice of agreement to talk to them. It is unknown at this time whether there were other individuals who experienced an overdose and came to Lakewood or Lutheran EDs, but for whom Woodrow peer recovery supporters received no notice or who did not agree to speak with a peer recovery supporter and therefore unable to track. This additional data would allow more insight into people who may be overlooked for treatment intervention. **Since September 2020, 157 out of 158 (99%) clients agreed to participate in peer support services, similar to the 100% in Year One.**

Figure 22

Encounter/Engagement in Woodrow Peer Support Services from September 2020 to August 2021



Referral to Treatment Services

Since September 2020, 97% (n=152) of Woodrow's clients who agreed to participate were referred for treatment services (Figure 23), 96% of all clients encountered by Woodrow compared to 98% in Year One.

Figure 23

Clients Referred to Treatment by Woodrow from September 2020 to August 2021

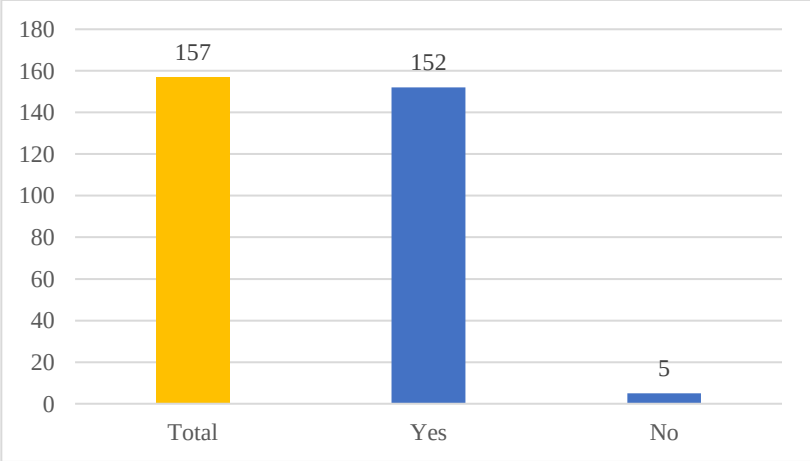
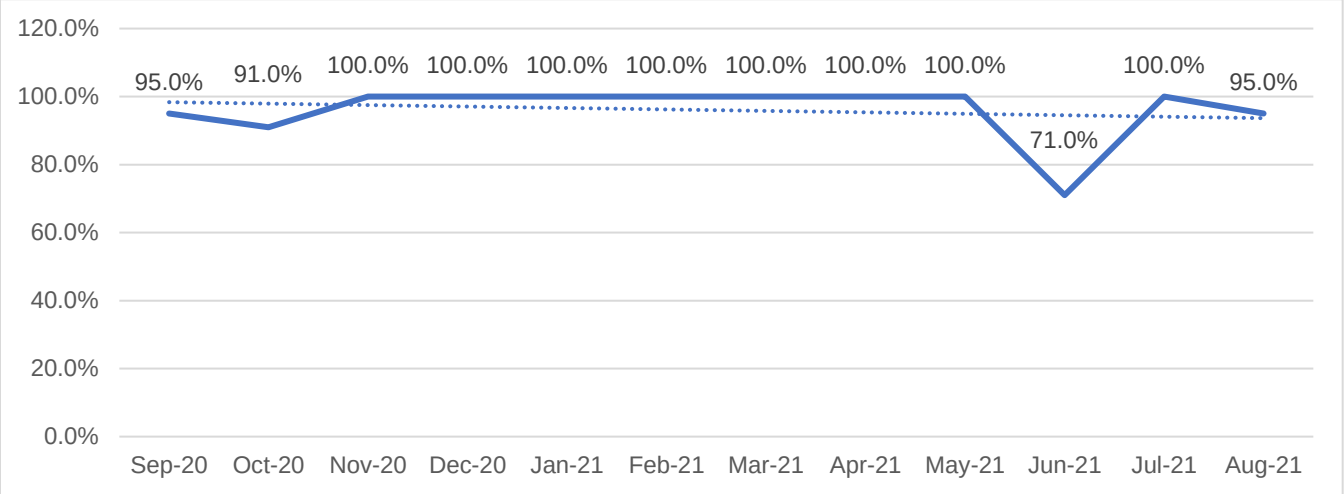


Figure 24 represents the trend line for Woodrow clients referred to treatment by month. From November 2020 to May 2021, all of Woodrow's clients were referred to treatment. There was a slight decrease in June 2021, however, referrals improved in July 2021.

Figure 24

Clients Referred to Treatment by Woodrow from September 2020 to August 2021



Of those individuals who agreed to peer recovery services, approximately 47% (n = 72) were referred to more than one treatment service, (Table 32). Of those individuals referred to treatment, the majority (82%) were referred for detox (n = 124), 56% were referred to Inpatient (n = 85), 8% to Outpatient (n=12), and 3.3% to other treatments such half way house and mental health facility (n=5).

Table 32

Woodrow Treatment Referrals by Type from September 2020 to August 2021

Types of Referrals for Treatment	Count Per Client		Multiple Cases by Client
	Single-N	**%**	**Multiple-Ns**
Multiple-Referrals	72	47.4	
Detox	53	34.9	124
Inpatient	14	9.2	85
Outpatient	10	6.6	12
Other	3	2.0	5
Total	152	100.0	226

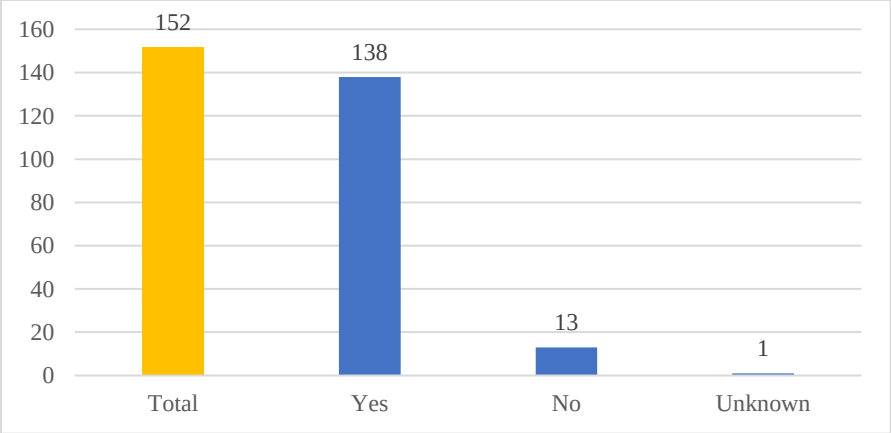
Note. Clients could be referred to more than one service.

Linkage to Treatment

Of those clients referred to treatment (n = 152) (Figure 25), the majority were linked with treatment services, an overall success rate of 91% (n = 138), 87% of the clients encountered by Woodrow. In comparison 84% of all clients encountered by Woodrow in Year One were linked to treatment, an increase of 4%.

Figure 25

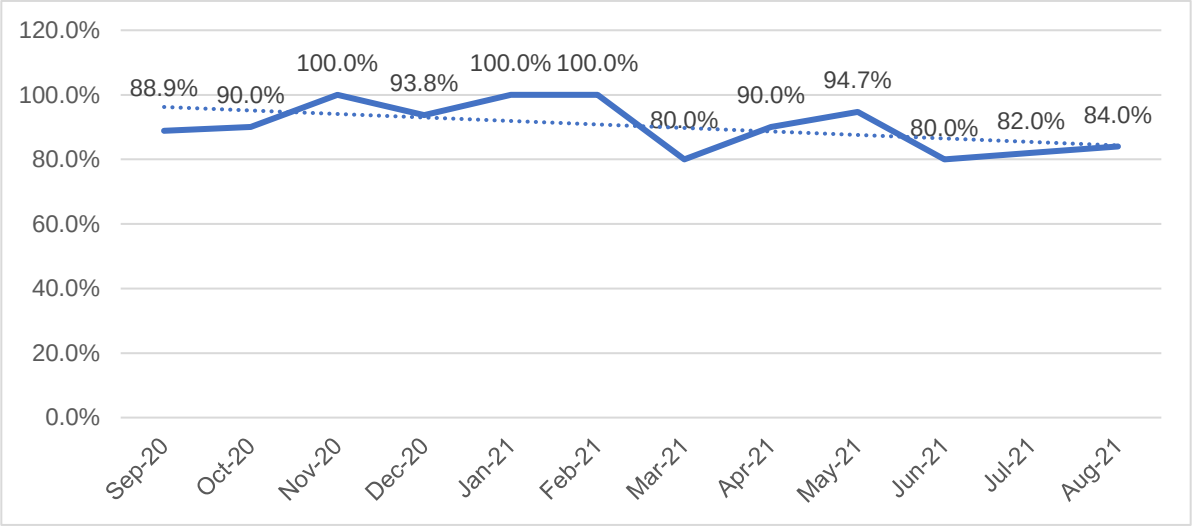
Woodrow Clients Linkage to Care from September 2020 to August 2021



The trend line graph (Figure 26) shows relatively consistent high rates for clients who linked with treatment services between October 2020 and May 2021. The majority of clients were linked with treatment services (91%) but the percentage decreased in the last quarter of 2021.

Figure 26

Trend line for Linkage to Care by Month for Woodrow Clients from September 2020 to August 2021



Of those clients who linked to treatment, 50% (n = 69) were linked with more than one treatment service, (Table 33). **The majority of Woodrow clients were linked with Detox (83%) (n = 115), 58% were linked to Inpatient (n = 80), and other services.**

Table 33

Linkage to Treatment Services for Woodrow Clients from September 2020 to August 2021

	Count Case Per Client		Multiple Cases by Client
Types of Linkage for Treatment	**Single- N**	**%**	**Multiple- Ns**
Multiple-Linking	69	50.0	
Detox	47	34.1	**115**
Inpatient	12	8.7	**80**
Outpatient	7	5.1	**8**
Other	3	2.2	**5**
Total	138	100.0	208

Note: Clients could be referred to more than one service.

Reasons why clients did not link with treatment services varied. The majority of clients left the ED before Woodrow staff could link them with or transport them to treatment services (n = 5). Other reasons are summarized in Table 34.

Table 34

Reasons Woodrow Clients were not Linked to Treatment from September 2020 to August 2021

Client Reasons for not Linking with Treatment Services	Frequency	%
Client left prior to a placement being made/ being transported to treatment	5	31.3
Client did not have insurance	2	12.5
Client did not want to wait too long for linkage	2	12.5
Client refused to leave the county	1	6.3
Treatment facility refused to take the client	1	6.3
Client had prior engagement	1	6.3
Client had a negative drug test	1	6.3
Client were non-cooperative	2	12.5
Beds were not available for the client	1	6.3
Total	**16**	**100.0**

Note. Clients could give more than one response.

Transportation to Treatment

Woodrow offers transportation to treatment for all individuals who are not already transported through the hospital service. As of August 31, 2021, Woodrow transported 22 clients to treatment.

Drug Use in past 30 days

Woodrow collects information from clients on their past drug use. Over 99% of Woodrow clients (157 out of 158) admitted to using alcohol and/or drugs (either prescription or non-prescription) in the past 30 days. Street opioids were the most commonly used drugs (31%), followed by prescription opioids (17%) (Table 35). Common misused prescription opioids were fentanyl (49%, n= 36), oxycodone (27%, n=20), buprenorphine (19%, n=14) and hydrocodone (19%, n=14).

Table 35

Woodrow Clients - Drug Type Use in Past 30 days

Drug Type Past 30 days	N	%
Alcohol	38	10.3
Cannabis	43	11.6
Cocaine	55	14.9
Hallucinogens	4	1.1
Inhalants	0	0.0
Methamphetamine	28	7.6
Prescription Opioids	62	16.8
Prescription Stimulants	0	0.0
Sedatives, depressants or sleeping pills	23	6.2
Street opioids	116	31.4
Other	1	0.3
Refused	0	0.0
Total	370	100.0

Note. Clients could give more than one response.

Of the 158 clients encountered, 40% (n=64) had never experienced an overdose, and 53% (n=84) never visited ED to treat an overdose (Tables 36 & 37). The most common places clients reported experiencing an overdose were someone else's house or a public place (Table 36). About half (49%, n=78) did not receive naloxone for their overdose (Table 37).

Table 36

Number of Overdoses Experienced by Woodrow Clients

How many times have you ever overdosed	N	%
Never	64	40.5
Once	27	17.1
Twice	20	12.7
Three Times	8	5.1
Four of More	33	20.9
Refused	5	3.2
Unknown/NA	1	0.6
Total	158	100.0

Table 37

Woodrow Clients Who Went to the ED Due to Overdose

How many times did you go to the ED/hospital because of an overdose?	N	%
Never	84	53.2
Once	31	19.6
Twice	11	7.0
Three Times	5	3.2
Four of More	21	13.3
Refused	5	3.2
Unknown/NA	1	0.6
Total	158	100.0

Table 38

Woodrow Clients Reported Place of Last Overdose

Last Place of Overdose	N	%
In your home	19	12.0
Someone else's home	31	19.6
Hotel/motel	5	3.2
Public place	21	13.3
Other	11	7.0
Refused	5	3.2
Unknown/NA	66	41.8
Total	158	100.0

Table 39

No. of Times Naloxone was Administered to Woodrow Clients Because of an Overdose

How many times were you given naloxone because of an overdose?	N	%
Never	78	49.4
Once	29	18.4
Twice	11	7.0
Three Times	7	4.4
Four of More	27	17.1
Refused	5	3.2
Unknown/NA	1	0.6
Total	158	100.0

Woodrow Year Two Supplemental Evaluation

Impact of Peer Recovery Services in Hospital ED

To increase understanding of the impact of Woodrow's Project SOAR peer support in the hospital EDs, the evaluation team interviewed a hospital representative who directs both EDs. When asked about general impressions of Project SOAR peer recovery supporters working in the EDs the director responded, "I think they've been fantastic." The director continued by explaining, "They're actually expanding to most of the other [Cleveland] Clinic EDs." The director detailed the beneficial role played by peer recovery supporters in:

> Getting [patients] directly from the ED to the place of rehab, which is a big change than what we were practicing before because I've been practicing for about 20 years and up until Project SOAR all we would do is to say, 'Here's your [Cuyahoga County] Street Card [with a list of treatment centers].'

The only concern surfaced during the interview was that the COVID-19 pandemic forced the once in-person peer support services to move to an online platform via ED-based iPads. The director saw this as a potential drawback to rapport-building between patients and peer recovery supporters. Yet the director also recognized positive impacts resulting from the immediacy of virtual peer support service delivery because peer support was only a call away. When asked about the impetus for Project SOAR expansion to other CCF hospitals the director offered, "I've just given feedback to my superiors and told them how successful it's been."

Woodrow 30-day and 90-day follow up

As part of an additional evaluation component in Year Two, Woodrow also contacted clients who engaged with a Woodrow peer recovery supporter in the hospital ED 30 days and 90 days after release. The clients were asked questions about their living conditions, treatment, services received, previous overdoses, and concerns about drug use and treatment. Woodrow reached out to 144 clients for their 30-day follow up, and received responses from 24 clients, a response rate of 17%. For their 90-day follow up, 15 out of 120 clients completed the survey, a response rate of 12%.

At the time of the 30-day follow up, one third of the clients surveyed (n=8, 33%) were engaged in treatment (inpatient, detox, etc.), 20 (83%) found their PRS helpful in their drug treatment, and 21 (88%) said they would continue working on their recovery. The 90-day follow up response showed similar results with 33% (n=5) of the clients surveyed engaged in treatment, 87% (n=13) finding their PRS helpful with their recovery, and an equal number (n=13, 88%) planning to continue with their recovery.

The living conditions of the clients in past 30 and 90 days is provided in Table 40. Homelessness was reported by over 30% of the clients at 30-day and 20% at 90-day. About 70% of the clients reported being arrested or jailed at 30 days, and 87% at 90 day follow up.

Table 40

Woodrow Clients Living Conditions in Past 30 days and 90 days

Living Condition	30 day (n=24)		90 day (n=15)	
	N	**%**	**N**	**%**
Own house/apt, living alone	6	25.0	4	26.7
Living with family/ friend, in own/their house	15	62.5	6	40.0
Transitional housing	0	0.0	2	13.3
Shelter	0	0.0	3	20.0
Other	3	12.5	0	0.0

In both the 30-day and 90-day follow up surveys, the clients identified factors keeping them in recovery as well as reasons that could make them go back to their drug use (Tables 41 & 42). One client expressed that being in recovery, she is “Better at everything, Mom, partner, employee, of course a better 'me’.” Another indicated “I don’t want to live the old way.”

Table 41

Reasons that Keep Woodrow Clients in Recovery

What keeps you in recovery?	30 day (n=24)		90 day (n=19)	
	N	**%**	**N**	**%**
Meetings/ sponsor	2	8.3	6	31.6
IOP/ treatment	2	8.3	4	21.1
Family	4	16.7	3	15.8
Tired of old life/ want better life	6	25.0	4	21.1
Work and hobbies	0	0.0	1	5.3
Aftercare	0	0.0	1	5.3
Other	6	25.0	0	0.0
Unknown	4	16.7	0	0.0

Note. Clients can indicate more than one response

Clients also provided reasons for relapse. **Associating with old friends or being in the wrong company were the most common reasons cited.** One client noted stress could cause them to go back to using drugs, “I have fallen off the wagon before".

Table 42

Reasons that Could Make Woodrow Clients Go Back to Misusing Drugs Again

What could make you misuse drugs again?	30 day (n=25)		90 day (n=15)	
	N	**%**	**N**	**%**
Old friends/ wrong company	9	36.0	3	20.0
Mental health issue	5	20.0	0	0.0
Own mind/ thinking	5	20.0	2	13.3
No support	1	4.0	0	0.0
Boredom	0	0.0	2	13.3
If something happens to family	0	0.0	2	13.3
Pain	0	0.0	1	6.7
Stopping treatment	1	4.0	0	0
Can't say no	0	0	1	6.7
Nothing can make me go back	3	12.0	2	13.3
Other/ Unknown	1	4.0	2	13.3

Note: Clients can indicate more than one response

Many of the clients at 30-day (83.3%) and 90-day (68.8%) 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 the clients. Similarly, a majority of the clients did not report any barriers related to engaging in treatment (88% at 30 days and 69% at 90 days). 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 (Table 43).

Table 43

Social services received by Woodrow clients

Social Services Received	30 day (n=31)		90 day (n=20)	
	N	**%**	**N**	**%**
No services	9	29.0	4	20.0
Housing	2	6.5	0	0.0
SSI/SSD	1	3.2	3	15.0
ADC/TENF/food pantry/food stamp	5	16.1	7	35.0
Medicare/Medicaid	11	35.5	6	30.0
Other	3	9.7	0	0.0

Note. Clients can indicate more than one response

Clients were asked about their relationship with family and friends (Tables 44 & 45)

Table 44

Family and friends – 30 day follow up

Variable	Response at 30 day (n=24)			
	Agree	**Undecided**	**Disagree**	**Refused**
I am happy with friendships I have	19(82.6)	2(8.7)	2(8.7)	0(0)
I have people with whom I can do enjoyable things	20(87.0)	3(13.0)	0(0.0)	0(0.0)
I feel I belong in my community	16(69.6)	3(13.0)	3(13.0)	1(4.4)
In a crisis, I would have support from family and friends	22(91.6)	1(4.2)	1(4.2)	0(0.0)
My family and friends are supportive of recovery	21(91.4)	1(4.3)	1(4.3)	0(0.0)
I accomplish what I set out to do	18(75.0)	4(16.7)	2(8.3)	0(0.0)

Note. Unknown/NA values excluded

Table 45

Family and friends – 90 day follow up

Variable	Response at 90 day (n=15)			
	Agree	**Undecided**	**Disagree**	**Refused**
I am happy with friendships I have	11(73.4)	2(13.3)	2(13.3)	0(0.0)
I have people with whom I can do enjoyable things	13(86.7)	0(0.0)	2(13.3)	0(0.0)
I feel I belong in my community	9(60.0)	3(20.0)	3(20.0)	0(0.0)
In a crisis, I would have support from family and friends	13(86.7)	0(0.0)	2(13.3)	0(0.0)
My family and friends are supportive of recovery	14(93.3)	0(0.0)	1(6.7)	0(0.0)
I accomplish what I set out to do	14(93.3)	1(6.7)	0(0.0)	0(0.0)

Note. Unknown/NA values excluded

Most of the clients responding to the surveys felt that the people using drugs are stigmatized and treated differently.

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

St. Vincent Charity Medical Center (SVCMC) is utilizing SBIRT in two of their medical-surgical unit and their outpatient health center to increase the identification of patients with substance use disorders (SUD) needing treatment services[7]. The evaluation question for this activity is ***how does the use of SBIRT in EDs increase the identification of patients with SUD in need of treatment services***.

[7] In the Year One Mero Health 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.

Table 46

Short-Term and Intermediate Outcomes for SBIRT Program

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Increase the number of support personnel trained on linkage programs and services	Data not previously collected	↑10%	55	2	57 support personnel trained
Increase the number of facilities adopting the SBIRT as a means to link patients with treatment services	Data not previously collected	↑10%	2	1	One additional medical unit adopted the SBIRT screener.
Increase the number of patients who are given initial SBIRT screening	Data not previously collected	2,175/yr.	362	3,973	Achieved
Increase number of patients with drug use disorder approached for a secondary screen (Encounter)	Data not previously collected	↑10%	50[a]	302	All patients identified for secondary screen for substance use disorder are approached.
Increase the number of patients with drug use disorder who are given the secondary SBIRT Screening (Engage)	Data not previously collected	↑10%	50[a]	301	In Year Two, 99% of the patients encountered agreed to the screen, as compared to 100% in Year One.[b]
Number of patients referred for treatment services after SBIRT screening (Referred)	Data not previously collected	↑50%	23[a]	291	In Year Two, 96% of the patients encountered were referred for services, over 48% increase from the previous year.[b]
Number of patients with drug use disorder (DUD) linked with treatment (Link)	Data not previously collected	↑10%	16[a]	40	In Year Two 13% of patients encountered were linked with treatment compared to 32% in Year One, a substantial decrease.[b]

[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 data was for four months, while Year Two Data collected data was for a total of 12 months.

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 on 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 was on track. There were some

significant changes to note between Year One and Year Two reporting. How the program defined encounter, engage, refer and link in the logic model were updated to focus on DUD-specific patients. Year Two reporting also was measured for a total of 12 months, versus Year One that only included four months of data.

Encounter/Engagement in Program Services

During Year Two, the SVCMC SBIRT Team screened a total of 3,973 patients using the SBIRT primary screen, with 302 patients screening positive for DUD. **Of the 302 patients with drug use disorder encountered, a total 301 (99%) agreed to the secondary screen (n = 301)** (Figure 27). Of those patients who agreed to the secondary screen (DAST), 295 agreed to speak with a social worker.

Figure 27

Encounters/Engagement for SVCMC SBIRT Secondary Screen from September 2020 to August 2020

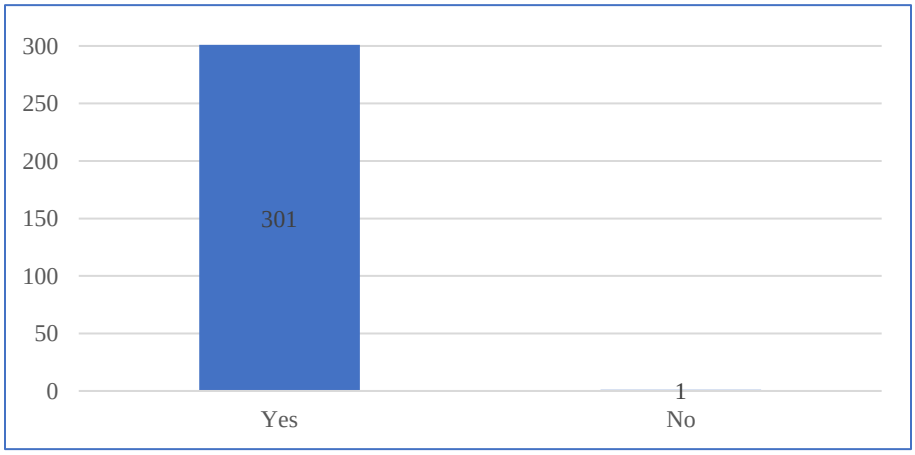
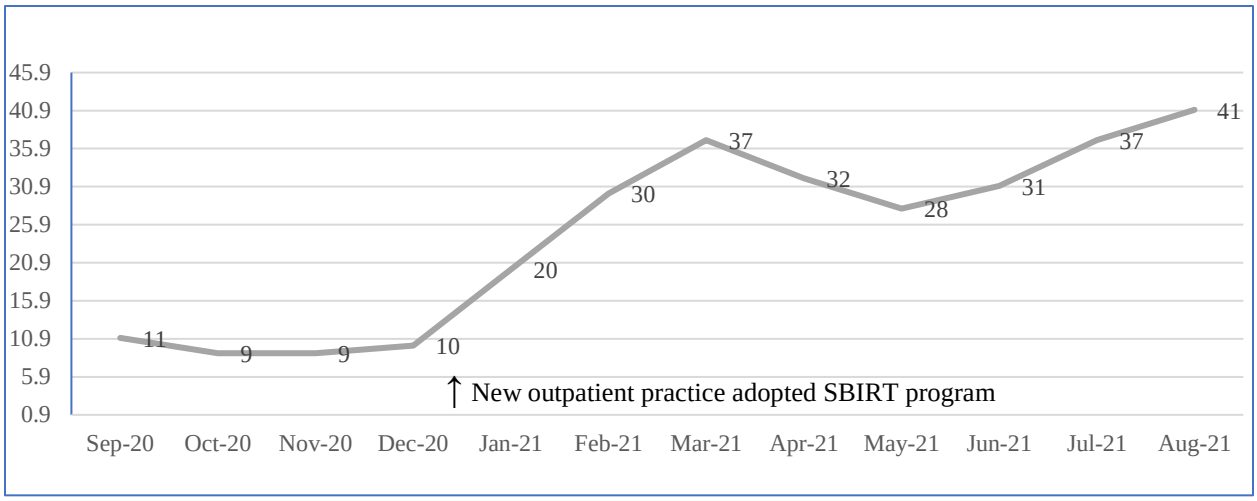


Figure 28 represents the trend for individuals who agreed to the secondary SBIRT screen.

Figure 28

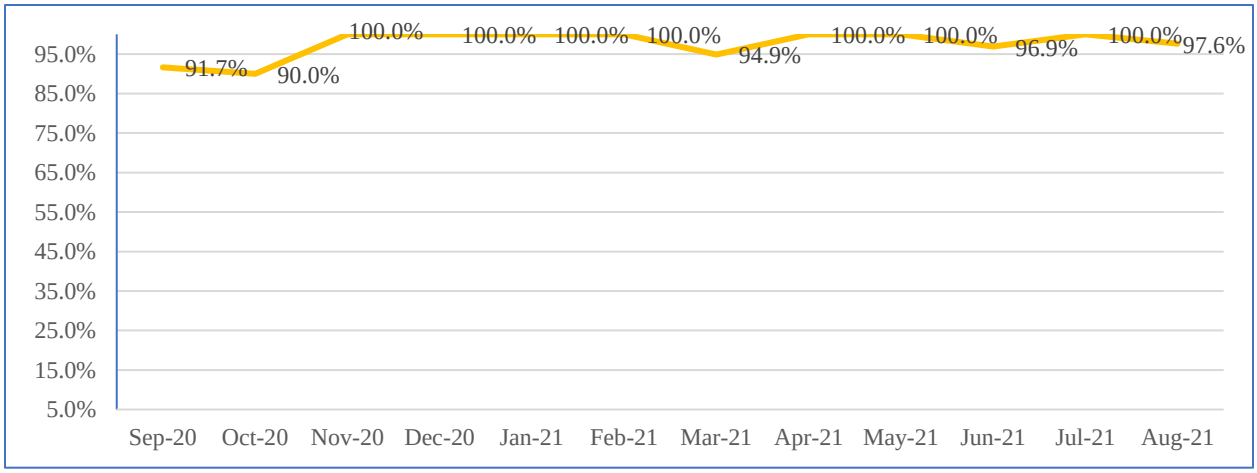
Percentage of Individuals Each Month Who Agreed to Secondary SBIRT screen from September 2020 to August 2021



Throughout the year, there were fluctuations in percentages of participation, including the implementation of the SBIRT at a new location (as noted in Figure 28 above) during the start of December 2020 (Figure 29).

Figure 29

Percentage of SVCMC Patients who Agreed to Speak with Social Worker Regarding SBIRT Secondary Screen for SUD from September 2020 to August 2021



In Year Two, additional analysis 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. The list includes Cannabis, Opioids, Sedatives, Stimulants, Amphetamines, Cocaine, Other drug types/Unspecified drug types, Hallucinogens, and Inhalants. Table 47 summarizes the drug types used as reported by patients with SUD.

This additional reporting can assist us in highlighting trends of polysubstance (the use of two or more drugs) among patients encountered in clinical settings. In Year One, approximately 26% of the patients with SUD 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%).

Table 47

SVCMC SBIRT Clients Reported Drug/Drug Combinations

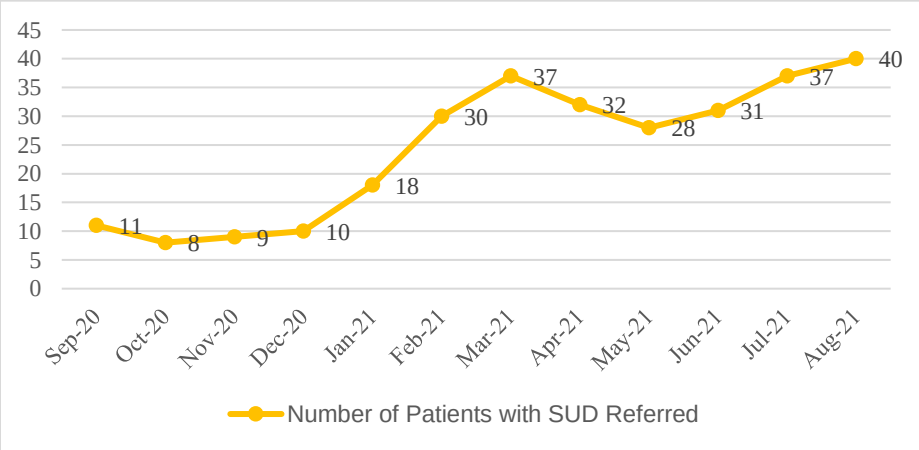
Reported Drug Types and Combinations	N	%
Cannabis	149	49.5
Opioid	27	9.0
Sedative, hypnotic, anxiolytic	0	0.0
Stimulant	0	0.0
Amphetamine	1	0.3
Cocaine	67	22.3
Other/Unspecified	2	0.7
Hallucinogen	3	1.0
Inhalant	0	0.0
Opioid and Cocaine	15	5.0
Cannabis and Cocaine	24	8.0
Cannabis and Hallucinogen	3	1.0
Opioid and Cannabis	2	0.7
Opioid and Sedative	1	0.3
Opioid and Stimulant	2	0.6
Cannabis, Opioid and Cocaine	1	0.3
Cannabis, Stimulant, and Cocaine	1	0.3
Opioid, Sedative, and Cocaine	1	0.3
Cannabis, Cocaine, and Hallucinogen	1	0.3
Cannabis, Opioid, Stimulant, Amphetamine, Cocaine, Hallucinogen	1	0.3
Total	**301**	100

Referral to Treatment Services

Of the 295 patients who agreed to the initial screening, received a secondary screen, and spoke with a social worker, 291 were referred for general treatment services (99%) (Figure 30). Of the 4 who did not receive a referral, 3 reported being already linked, and one was not available for treatment, thus ending the discussion prior to receiving a referral. SVCMC refers patients for treatment services provided by a professional treatment agency and does not refer to other treatment services such as Narcotics Anonymous (NA).

Figure 30

SVCMC SBIRT Patients Referred for Treatment Services by Month from September 2020 to August 2021



Patients who Agreed to Treatment Referrals from SBIRT Team

In addition to tracking the number of patients referred for treatment services, SVCMC also tracked the number of patients who accepted the referral for treatment. Of the 291 patients referred for treatment by the SBIRT Team, about 39% of patients agreed to the referral (n = 115) (Figure 31). Figure 32 depicts the number of patients who agreed to a referral for treatment by month.

Figure 31

SVCMC SBIRT Patients Who Agreed to a Referral for Treatment from September 2020 to August 2021

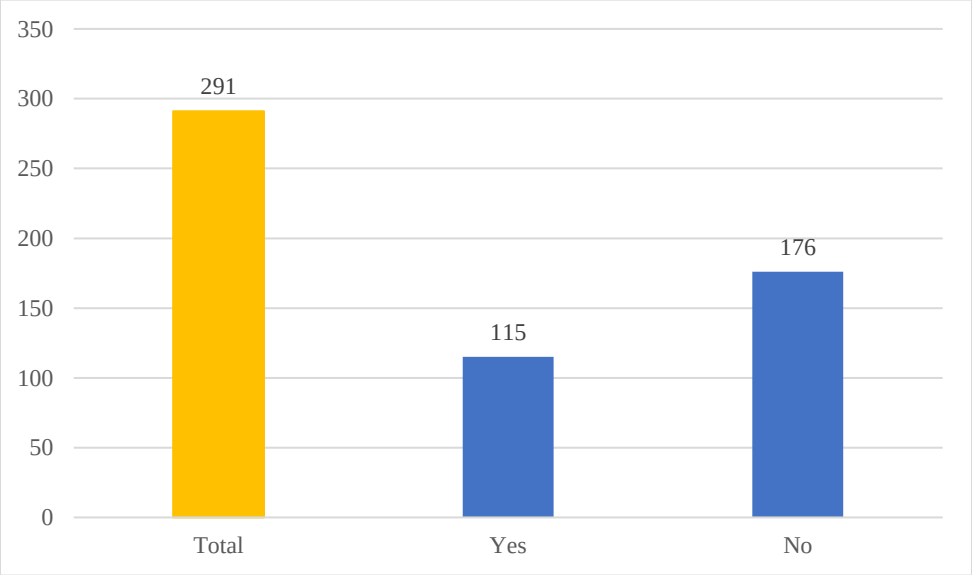
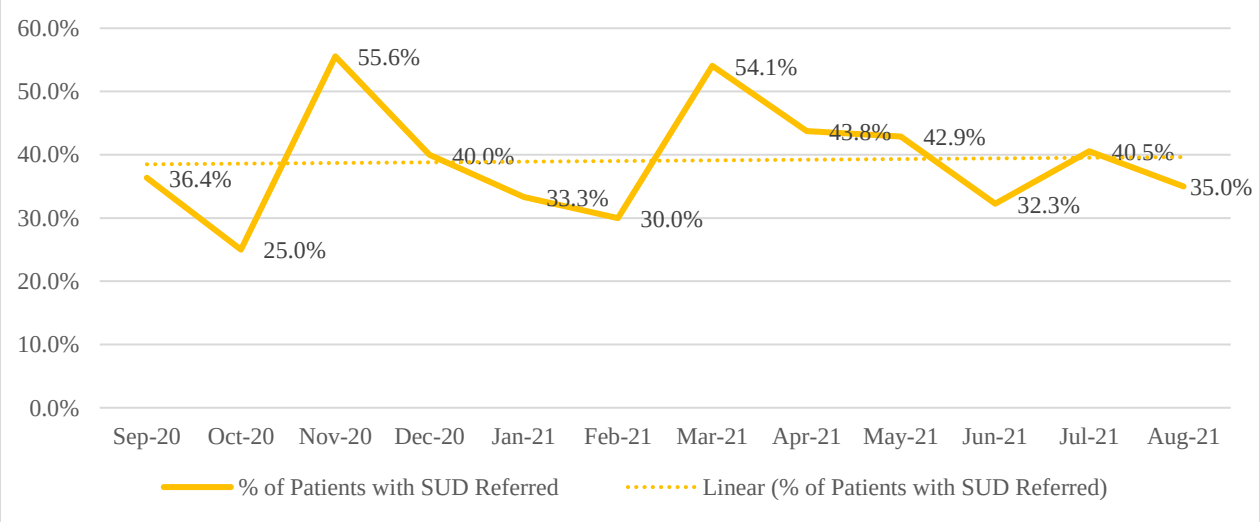


Figure 32

SVCMC SBIRT Patients Who Agreed to a Referral for Treatment by month from September 2020 to August 2021



The reason provided by the majority of patients who did not accept the referral was they were not interested in treatment (90%, n=159). Table 48 delineates other reasons (10%, n=17).

Table 48

SVCMC SBIRT Patients' Reasons for Not Accepting a Referral for Treatment from September 2020 to August 2021

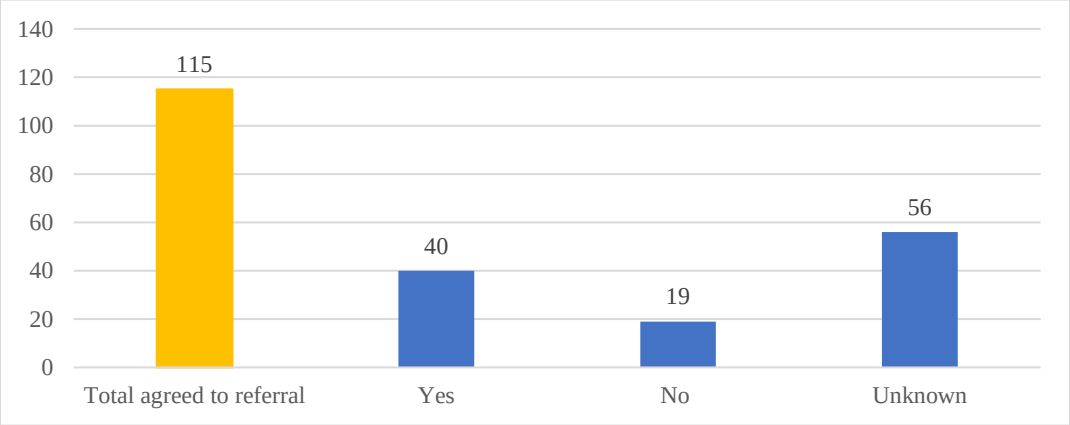
Reasons for Refusal	N	%
Not interested in Treatment	159	90.3
Other Reason		
Housing Insecurity	5	2.8
Already Linked	2	1.1
Linked to other type of agency	2	1.1
Medically Unfit	2	1.1
Unsure	2	1.1
Requested Other Services	1	0.6
Active in Other Programs	1	0.6
Moving out of State	1	0.6
Unknown	1	0.6

Linkage to Treatment

For those patients with SUD who agreed to a referral for treatment 35% (n = 40) were confirmed to be linked to treatment services (Figure 33).

Figure 33

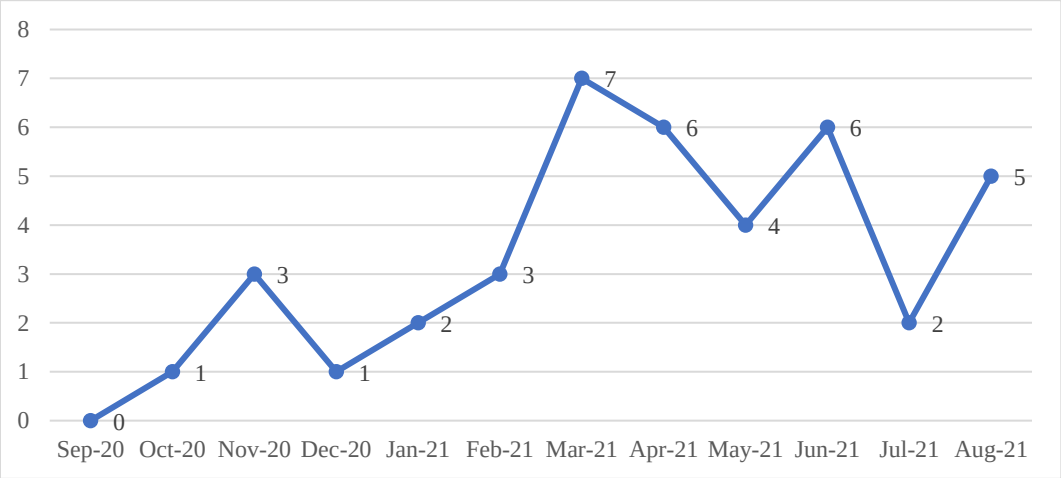
SVCMC SBIRT Patients with SUD Linked to Treatment Services from September 2020 to August 2021



There were various fluctuations of linked patients with substance use disorder throughout the year (Figure 34).

Figure 34

SVCMC SBIRT Patients Linked to Treatment by Month from September 2020 to August 2021



Linkage Types

Patients were linked with various forms of treatment (Table 48). The most common being Crisis/Inpatient treatment (30%), followed by Outpatient (11%), and Detox (11%).

Table 49

SVCMC SBIRT Treatment Linkage Types from September 2020 to August 2021

Types of Treatment	Count Per Client		Multiple Cases by Client
	Single-N	%	Multiple-Ns
Multiple Referral	3	7.5	0
Crisis/Inpatient	12	30.0	0
Outpatient	11	27.5	3
Medication Services	2	5.0	3
Detox	11	27.5	0
Intensive Mental Health	1	2.5	0
Total	40	100	6

Note: Patients could be referred to more than one service.

Transportation to Treatment

All SBIRT patients are offered transportation to treatment. During the second year, 11 patients accepted transportation to treatment.

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

The role of MetroHealth in Strategy 6 is to increase warm handoffs to Medication Assisted Treatment (MAT) for at-risk persons as part of the ExAM Program. The program provides MAT to persons incarcerated in the Cuyahoga County Corrections Center. The evaluation question examines ***how can Cuyahoga County increase MAT services for at-risk populations***. Warm handoffs to community-based MAT will occur upon the inmates' release from the jail. Warm handoffs to community-based MAT will occur upon the inmates' release from the jail. MetroHealth is able to link many ExAM clients to community MAT.

Table 50

Short-Term and Intermediate Outcomes for MetroHealth ExAM Program

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Increase the number of inmates identified for ExAM Program (Encounter)	414	10%	517	583	Achieved
Increase the number of inmates who participate in the ExAM program (Engage)	414	10%	489	580	Achieved
Increase the number of warm-handoffs to community-based MAT (Refer)	63	10%	209	87	Achieved
Increase the number of clients linked with treatment (Link)	Data not previously collected	10%	206	81	Accurate number of clients linked is unknown. See discussion in report.

Please note that Year One and Two data contain duplicate participants entered under different IDs for multiple referrals. Although these participants are entering the program based on a new referral following a subsequent incarceration, the numbers overestimate the number of individuals engaged in the program. This issue was recently identified and will be corrected in Year Three.

Encounter/Engagement in Program Services

During Year Two, from September 2020 through August 2021, 583 inmates at the Cuyahoga County Corrections Center were assessed and approached for participation in the MetroHealth ExAM program. **Almost all of the inmates (n=580) agreed to participate in the MetroHealth ExAM program** (Figure 35). In the last year, February and March participation rates were the lowest but increased in April (Figure 36).

Figure 35

Cuyahoga County Corrections Center Inmates Who Agreed to Participate in MetroHealth ExAM Program from September 2020 to August 2021

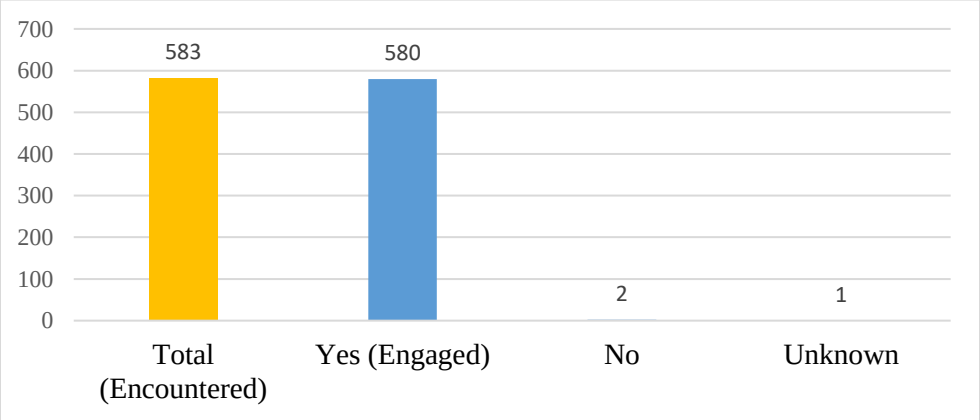
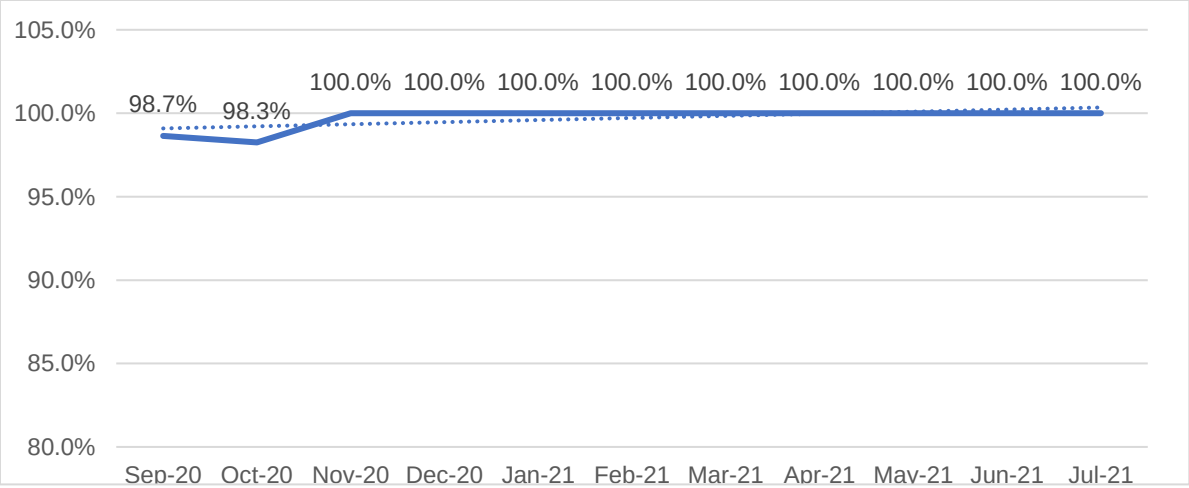


Figure 36

Cuyahoga County Corrections Center Inmates Who Agreed to Participate in MetroHealth ExAM Program by Month from September 2020 to August 2021



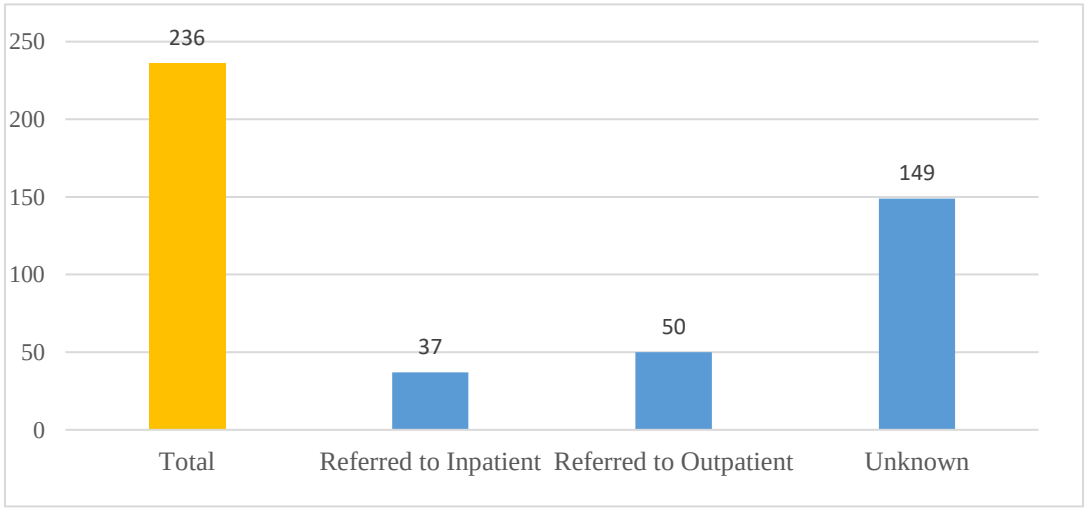
Referral to Treatment Services

Once released from incarceration, former ExAM clients are referred to community-based MAT treatment services. The MetroHealth ExAM program is designed to refer all clients who participate in the program for community treatment services. During Year Two, 236 inmates were released from jail and of those, 87 were referred to community-based MAT (37 to inpatient and 50 to outpatient) (Tables 50 and 51). In addition to being referred to treatment by MetroHealth ExAM program staff, 84 former ExAM clients received additional information about community-based non-treatment services (Table 51).

The ExAM team provides information on how to contact the community-based team at the time of enrollment into the ExAM program. When they are notified about an impending release of a client, they reach out to ensure they still have the contact information. However, when the ExAM team is not notified of a release until after the release, establishing contact in the community is more difficult, making the hand-off to community care more difficult, as the clients often do not respond, change their phone number or address after being released. During the COVID-19 pandemic, compassionate releases increased the number of clients with whom contact in the community was lost, thereby explaining the low number of clients referred to community MAT upon release.

Figure 37

MetroHealth ExAM Clients Referred to Community Treatment Services from September 2020 to August 2021



Of the 87 clients for whom referral information is available, 57% of referrals for community-based MAT were for outpatient treatment (n = 57), and 46% (n = 37) were for inpatient treatment services (Table 50). All MetroHealth ExAM clients were provided with vouchers for transportation to community treatment services.

Table 51

MetroHealth ExAM Clients Referred for Community Treatment Upon Release from Corrections Center from September 2020 through August 2021

	Frequency	Percent
Total	**236**	**100.0**
Referred to Inpatient	37	15.7
Referred to Outpatient	50	21.2
Unknown	149	63.1

Inmates were referred for other community-based services (n = 84) in addition to treatment services (Table 51). The majority of services were for Medicaid/Medicare, Housing/Shelter, and Transportation (n = 75).

Table 52

Types of Referrals for Community-Based Non-Treatment Services for MetroHealth ExAM Clients from September 2020 to August 2021

Additional Services Referred	Frequency
Medicaid/Medicare	43
Housing/Shelters	18
Transport	14
Employment/Education Services	11
Identification	1
Other	1
Total	88

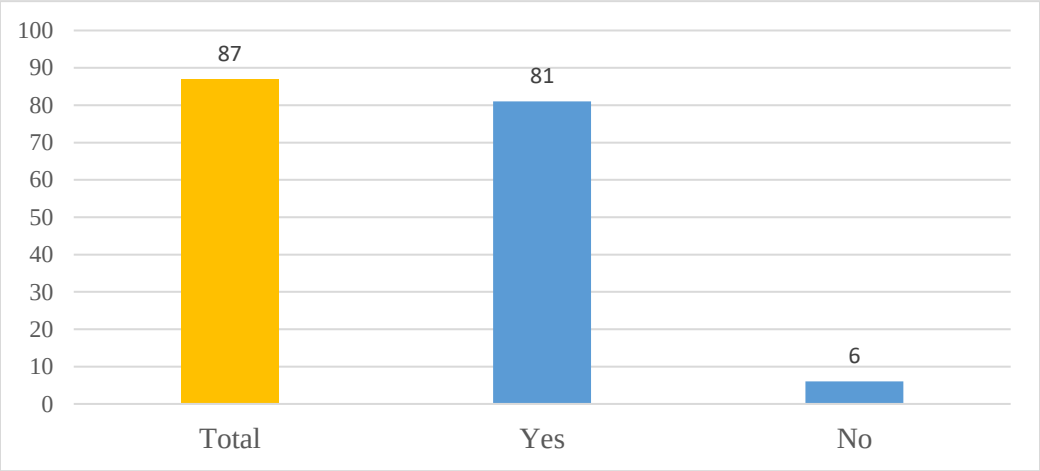
Note. Clients could be referred to multiple services.

Linkage to Treatment

In the last year, nearly all of the 87 clients who were referred for community-based MAT treatment services were linked (93%, *n* = 81) (Figure 38).

Figure 38

MetroHealth ExAM Clients Linkage to Community Treatment Services from September 2020 to August 2021



Enhance Awareness and Outreach Efforts of Syringe Service Program - CHS

As part of Strategy 6, CHS is working to enhance awareness and outreach efforts of its Syringe Services Program (SSP). CHS has expanded its outreach services within its SSP by providing better linkages to care for the drug-using community who visit their mobile sites. Care Coordinators work with SSP program participants to provide referrals for treatment and linkages for basic needs. The evaluation question for this activity seeks to examine ***to what extent does the enhancement of care coordinators involved with SSP in Cuyahoga County increase the county's ability to engage individuals misusing opioids into treatment.*** To enhance their outreach efforts, CHS equipped a van for SSP, launching the service in February 2020. Although CHS is not able to verify whether all clients referred for treatment are linked, all of those engaged clients who were interested in services are referred for treatment services. **In Year Two, 998 clients expressed interest and were referred (43% of encountered), compared to 40% in year 1, which is an increase of 8%.**

Table 53

Short-Term and Intermediate Outcomes for CHS SSP Care Coordination from September 2020 to August 2021

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Increase number of agencies referring clients to SSP	10	11	Data currently not available	1	
Number of clients who were approached about SSP Care Coordination (Encounter)	707	↑10%	2,057	2,332	Achieved: 13% increase.
Number of individual clients who engage with the SSP Care Coordinator (Engage)	707	↑10%	2057	2332	Achieved. In Year Two 275 more clients were encountered and engaged than in Year One, an increase of 13%, and a 230% increase from baseline.
Increase number of clients referred to treatment services by SSP Care Coordinator (Referred)	Data not previously collected	↑30%	453	998	In Year Two 43% of the clients encountered were referred for services compared to 40% in Year One, an 8% increase.
Number of clients linked with MAT (Link)	Data not previously collected	↑10%	28	57	Reporting is only able to track clients linked to MAT and not all services, 57% of those referred linked with MAT.
***Note.** Year One Engage data has been updated to reflect a corrected description of how all clients are engaged (asked) about their interest in other services.					

Describe and Track Marketing Materials Created for SSP

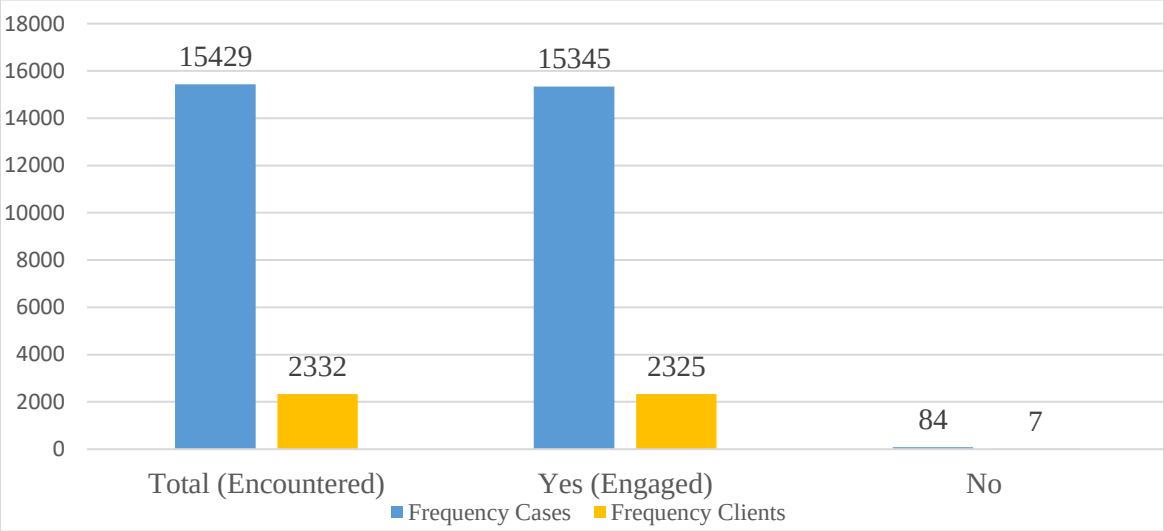
In Year Two, CHS continued efforts to market their SSP. One flyer was developed in February 2021 that addressed needle insertion and the prevention of abscesses (Appendix 5). In addition to the flyer, CHS launched a marketing campaign in two phases, spring and summer of 2021, samples of campaign materials are included in Appendix 5. This media campaign leveraged social media (Facebook and Instagram), Google and Bing search advertisements, outdoor posters (billboards), and transit posters on buses. Digital media impressions were only utilized during Phase One, as there was a certificate problem during Phase Two. Despite this setback, online advertisements resulted in nearly 203,000 impressions with more than 1,500 clicks. Transit posters on 64 buses reached an estimated 1.3 million people and outdoor billboards (n=10) during both spring and summer reached an estimated 7 million people.

Encounter/Engagement in Program Services

During Year Two, the SSP served a total of 2,332 unique individuals, totaling 15,429 encounters. Of these unique individuals, 43% (n=998) expressed interest in services while engaged, an increase of 8% from the 40% (n=453) in Year One. The SSP staff discussed treatment services with these individuals on a number of occasions during the year (n = 15,345) as a person could have come to the van more than once and agreed to discuss treatment options.

Figure 39

CHS Encounter/Engagement of Clients and Referrals for Treatment from September 2020 to August 2021

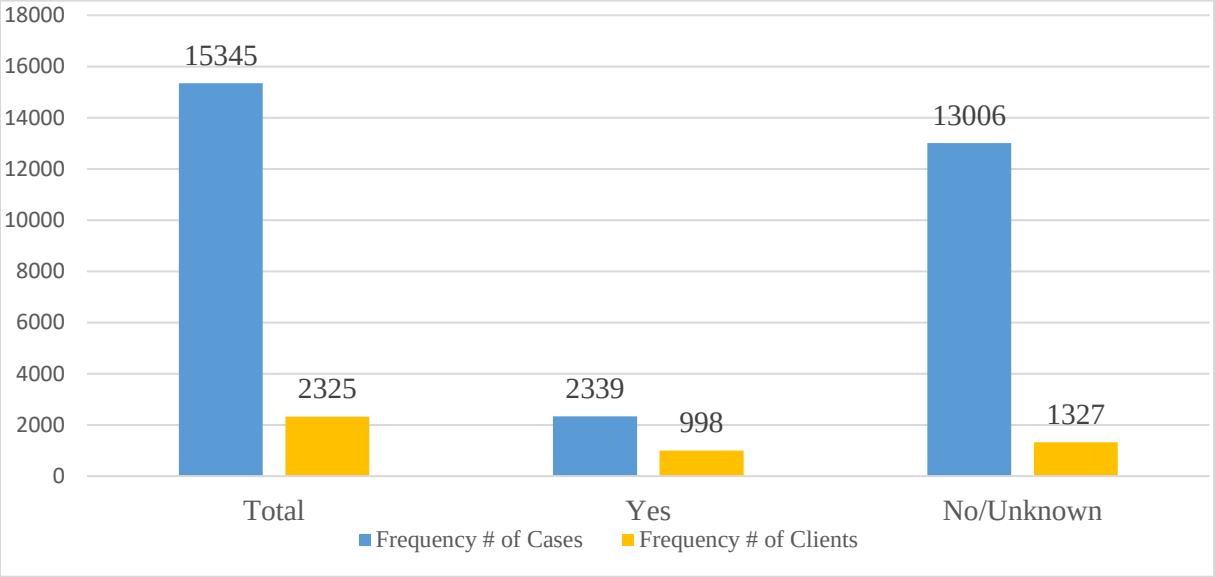


Referral to Treatment Services

All clients who expressed interest in services were referred to those services. Despite staff changes and staff challenges with the availability of van services during Year Two, CHS increased total encounters (n=2332), as well as the number and percent of clients who expressed interest in and were referred to services (n=998, 43%).

Figure 40

CHS Clients Referred for Treatment from September 2020 to August 2021



Of those clients who were referred to care, 94.8% (n = 946) of the clients were referred to more than one type of treatment service (Table 53). The majority of CHS clients were referred for Detox (43.4%, n = 941) and primary health services (42.2%, n = 914).

Table 54

CHS Client Referrals by Treatment Type from September 2020 to August 2021

Types of Referrals for Treatment	Count Per Client		Multiple Cases by Client	
	Single- N	%	Multiple-Ns	%
Multiple Referrals	946	94.8		
Detox	6	0.6	941	43.4
MAT	41	4.1	107	4.9
Medical	1	0.1	914	42.2
Dental	1	0.1	15	0.7
Inpatient			83	3.8
Outpatient			82	3.8
Behavioral Health			12	0.6
Abscess Treatment			8	0.4
Prep			2	0.1
Emergency Department			4	0.2
Unknown	3	0.3		
Total	**998**	**100.00**	**2168**	**100.0**

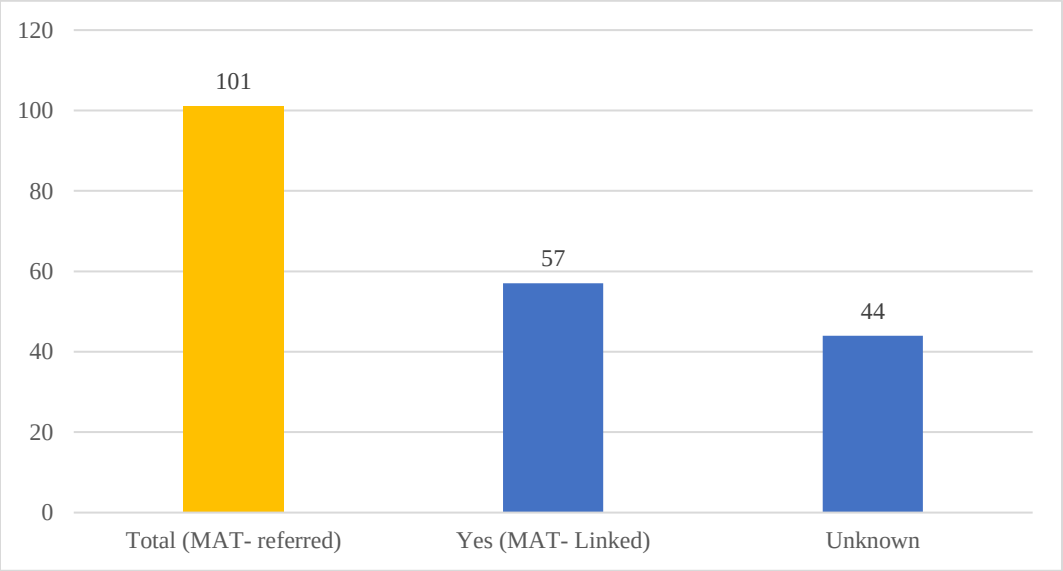
Note. Clients could be referred to more than one service.

Linkage to Treatment Services

For the OD2A Initiative, CHS does not have the ability to track all linkages to services, except for linkages with community-based MAT. Of those individuals who were referred for services, 57 linked with MAT (Figure 41).

Figure 41

CHS Clients linked to MAT program from September 2020 to August 2021

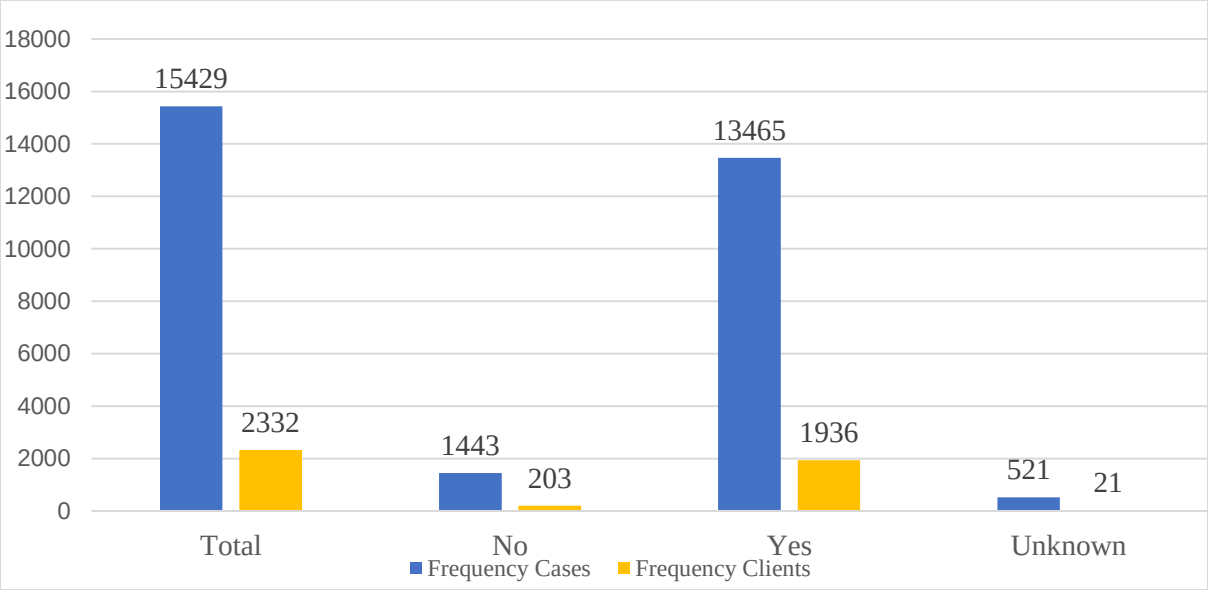


Project DAWN Kits

As part of the SSP, individuals are asked if they have a Project DAWN kit. The following data includes all individuals encountered by the SSP (n = 15,429) and not only those who were interested in services. The number of client encounters does not represent the number of unique clients as clients may have interacted with CHS staff on more than one occasion. In the last year, the majority of clients had a Project DAWN kit (87%, n = 13,465). When examining each client individually (n = 2,332), 83% (n = 1,936) of the clients possessed a DAWN Kit (Figure 42).

Figure 42

CHS Clients who Possessed a DAWN Kit at Time of Encounter from September 2020 to August 2021

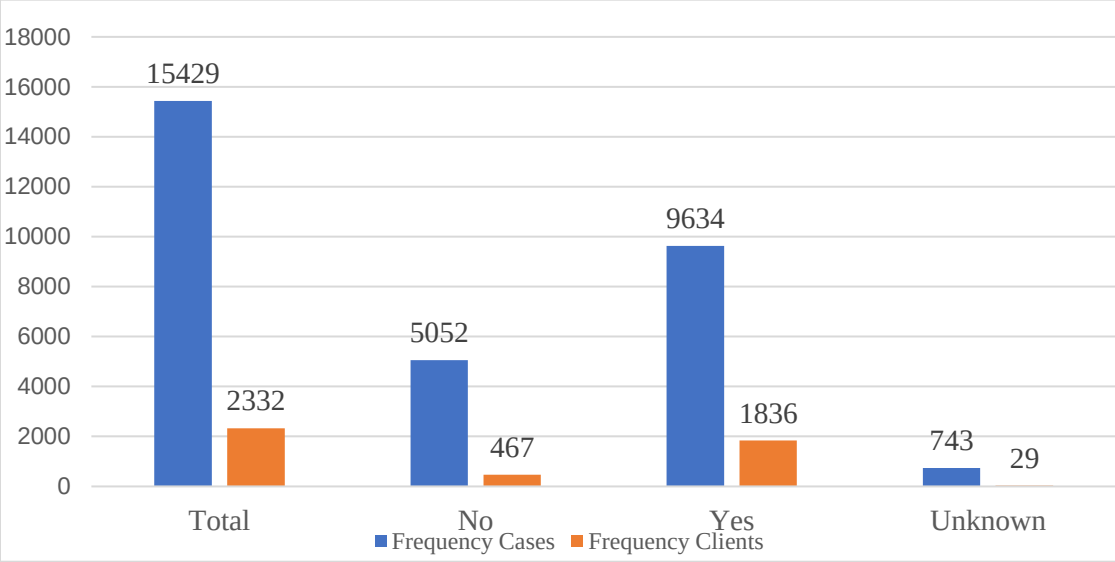


Prior Naloxone Use

During Year Two, 9,634 individuals reported that they had used naloxone to reverse an overdose. This number does not represent unique clients as clients were likely asked this question each time they came to the SSP. When only examining each client once, 79% (n = 1,836) of the clients reported using naloxone to reverse an overdose (Figure 43).

Figure 43

CHS Clients' Naloxone Use from September 2020 to August 2021

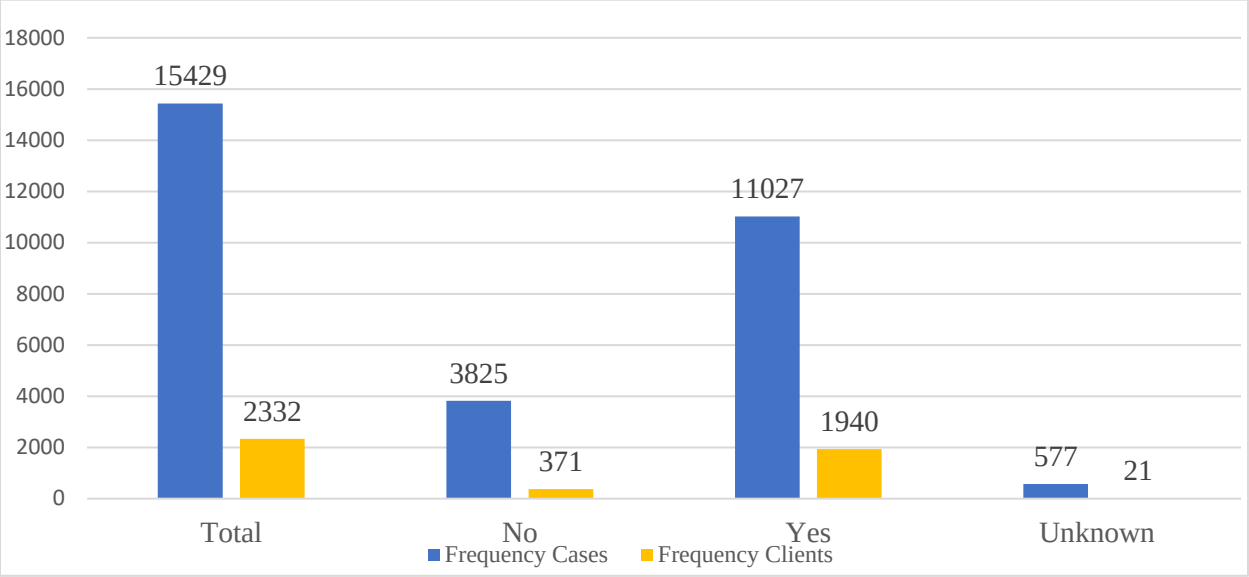


Referrals to Project DAWN

The majority of the clients encountered by the SSP care coordinators received a referral to Project DAWN (71%, n = 11,027) (Figure 44). Clients could be referred more than once so this number does not represent unique clients. When only examining clients once, 83% (n = 1,940) of the clients were referred. Project DAWN provides prevention and educational information to clients as well as naloxone.

Figure 44

CHS Project DAWN Referrals from September 2020 to August 2021



CHS Client Survey

New this year, clients who visited any CHS syringe exchange location at least twice were asked to complete a survey, each client may only complete the survey once. The survey consists of questions regarding clients' attitudes toward treatment (including engagement and barriers), overdose history, Project DAWN kit distribution, perceptions of drug use, and motivation for change. A gift card was provided to clients who completed the survey. The survey included 5 questions from the Motivation section for Substance Abuse Treatment, CMR Factor Scales Intake Version the Circumstances, Motivation, and Readiness Scales for Substance Abuse Treatment.[8]

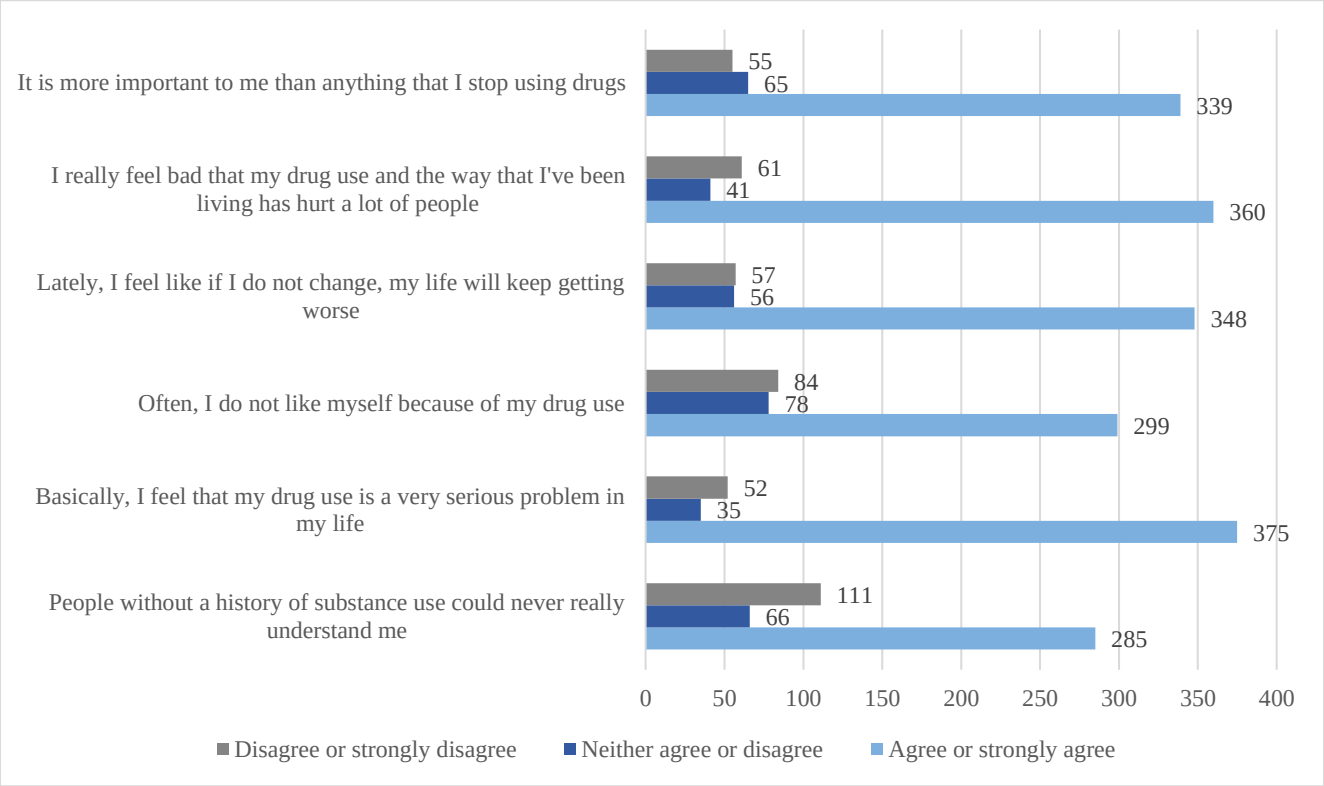
The data presented in the Year Two report should be considered preliminary as the survey is ongoing into Year Three, 468 surveys were completed this reporting period.
Clients were asked to respond to statements about substance use on a five-point Likert Scale. Data was analyzed by combining the agree/strongly agree responses and combining the disagree/strongly disagree responses to create three categories of responses. While most of the statements focused on the impact of drug use on the clients' lives, the first statement, "People

[8] Melnick, G, Hawke, J and De Leon, G. Motivation and Readiness for Drug Treatment: Differences by Modality and Special Populations. *J Addict Dis*. 2014; 33(2): 134–147. Used with permission of Dr. De Leon on 2/13/2020.

without a history of substance use could never really understand me," asked clients to consider the perceptions of others (Figure 45).

Figure 45

CHS Client Survey – Perceptions and Feelings about Drug Use



Clients were then asked about where their last overdose occurred. Of 464 responses to this question, the majority (53%, n=245) responded that they have not overdosed. Of those who had overdoses, most indicated their last overdose occurred at home (n=107). Other locations of overdose included a family member's home, a nursing home, and Burger King (Table 55).

Table 55

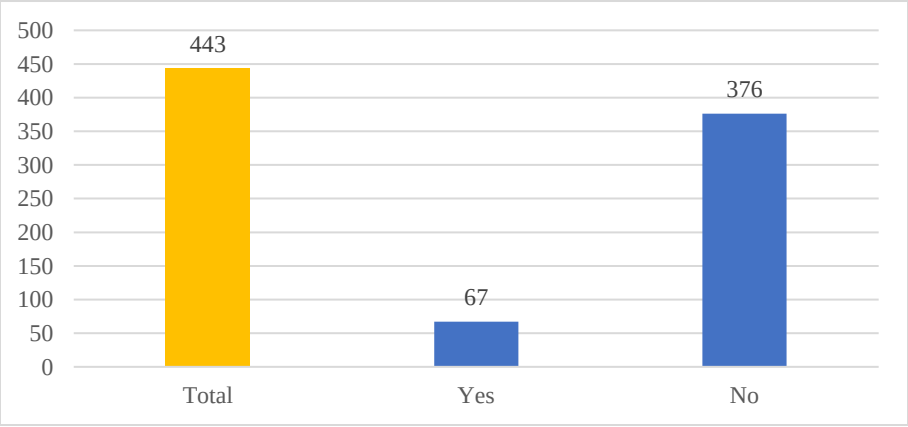
CHS Client Survey - Location of Last Overdose

Location of Last Overdose	Frequency of Response
Friend's House	48
At Home	107
Car or Driving	25
Public Business	9
Vacant Area or Street	8
Parent's Home	5
Hotel	8
Other	9
I have not overdosed	245
Total	**464**

Clients were also asked if they received a Project DAWN kit on the day they took the survey. Eighty percent of clients responded no to this question; however, this does not mean the client has never received a Project DAWN kit during a visit to a CHS location.

Figure 46

CHS Client Survey – Clients Receiving Project DAWN Kits



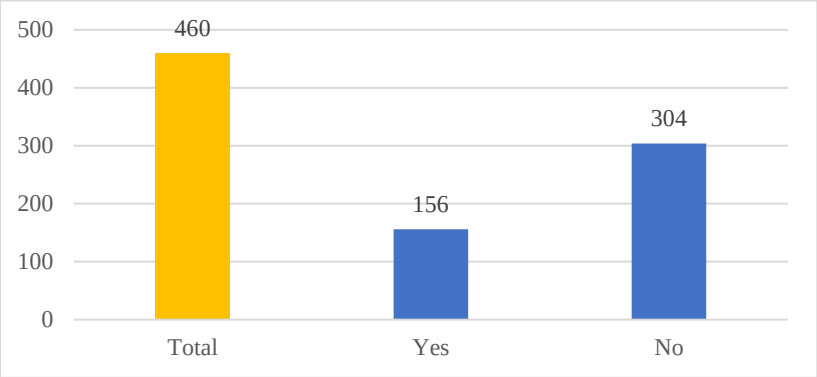
For those who received a Project DAWN kit (n=67), 36 individuals responded the Project DAWN kit was for themselves, while others were getting kits for a spouse/partner, a family

member, a friend, or roommate. Still others indicated they would like to have one for “anyone in need.”

Figure 47 shows client responses to whether or not they are currently engaged in treatment or had been engaged in treatment in the last year, there were 460 responses to this question and more than half responded “no” to having engaged in treatment (60%, n=304).

Figure 47

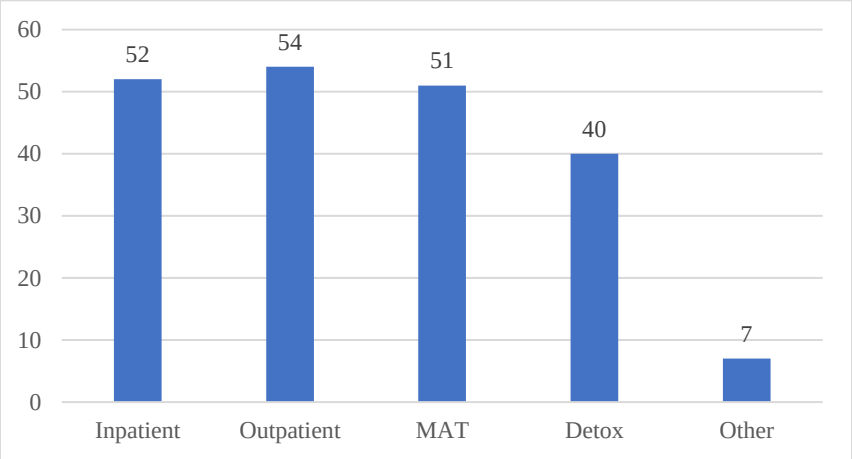
CHS Client Survey – Treatment Engagement



Those clients who responded “yes” were asked to indicate what types of treatment they had received. Clients could choose multiple responses (Figure 48). For those who responded “other,” two said Alcoholics Anonymous (AA), two said “sober living” and one said “methadone.” One client responded to this question that they had “been on the streets, homeless.”

Figure 48

CHS Client Survey – Types of Treatment Engaged In



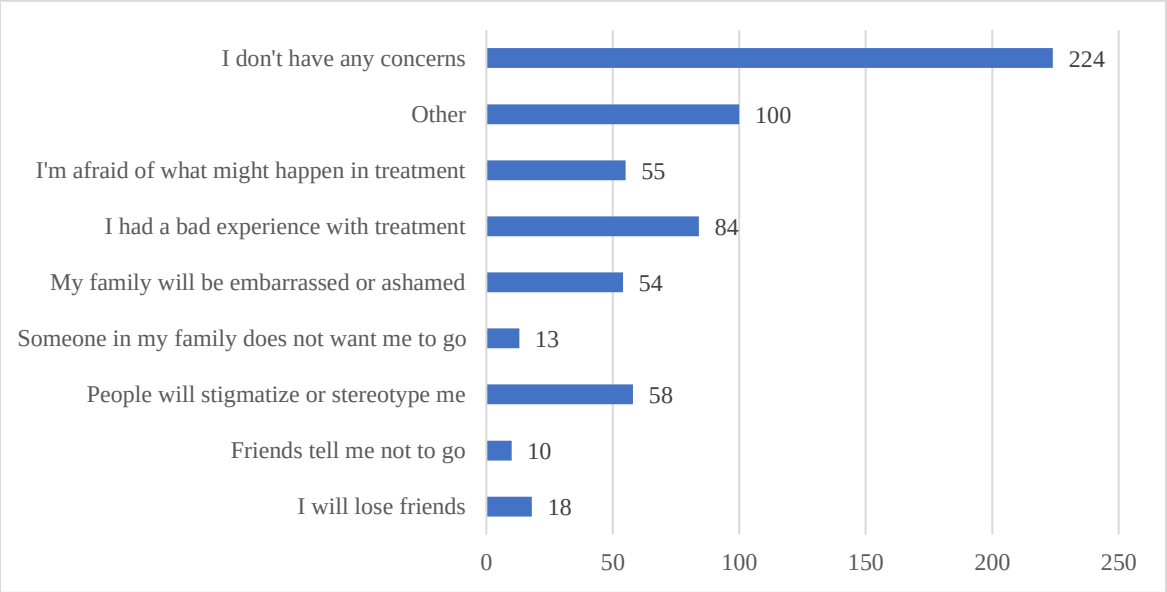
Note: Clients could indicate more than one type of treatment.

Despite fewer than half of clients saying there were currently in or had recently engaged in treatment, few reported concerns around entering treatment (36%, n=224). Clients were provided a list of possible concerns with the additional option to select "other" and describe these in their own words. Figure 49 shows the frequency of clients who reported concerns around treatment and what those concerns were.

Clients were also asked about barriers to engaging with treatment. While the most frequent response was "I am not experiencing any barriers," 19%, (n=135) many clients (15%, n=103) also indicated they do not like to talk about their personal life with others (Figure 50).

Figure 49

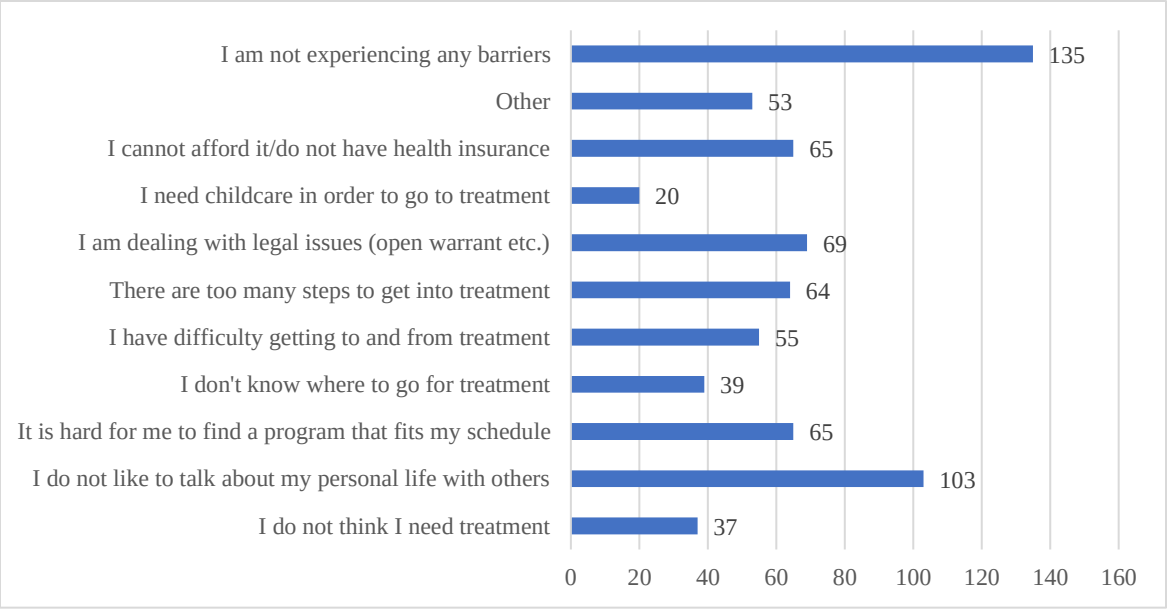
CHS Client Survey – Concerns About Engaging with Treatment



Note: Clients could indicate more than concern.

Figure 50

Barriers to Engaging with Treatment



Note: Clients could indicate more than one barrier.

Among "other" barriers and concerns around not entering treatment, the most common reason was fear or concerns about pain during withdrawal. Many clients stated that they had completed treatment previously but it didn't last, others expressed fear of losing employment while in treatment.

Enhance *drughelp.care* Resource Linkage Tool - CSU

As part of Strategy 6, Cleveland State University (CSU) is working to enhance the *drughelp.care* resource linkage tool. The evaluation question for this activity is ***in what ways is web-based technology effective in reaching and linking clients to treatment services.*** CSU continues to work on three major activities: (a) refining the web app, (b) registering agencies on the web app, and (c) training first responders to use the web app. CSU achieved their three-year goal of conducting five focus groups by completing 10 by the end of Year Two.

Table 56

Short-Term and Intermediate Outcomes for drughelp.care

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Increase the number of new agencies registered on the web app	46	96	31	24	Achieved: number of total agencies =98*
Increase the number of agencies inputting information on web-app	25	↑10%	31/month	41/month	Achieved: 64% increase in number agencies from baseline
Increase the number of clients using the web-based app	2,265	↑20%	4,332	12,273	Achieved: over 100% increase in number clients using the web-based app from baseline
Increase # of new treatment services included on the web-app	293	↑5%	103	116	Achieved: over 100% increase in number of new treatment services included on web-app from baseline
Increase provision of EBPs for OUD	Data Not Previously Collected	↑10%	1280	2208	72% increase

Note. 100 registered agencies include two that were closed within the past year.

Usefulness of Web App

The target number of focus groups evaluating the *drughelp.care* web app through the OD2A Initiative is five. CSU achieved this in Year Two by completing four focus groups and three interviews in addition to the three focus groups completed in Year One. The main purpose of these focus groups was to collect feedback on the new "quick search" feature on the web app. This feature was added to the website to make it easier for laypersons in crisis to find the help and services they needed. Some of the feedback received around the quick search included:

- The importance of family, 70% of people who contact treatment service agencies are doing so on behalf of someone else.
- Keep in mind that laypeople may not have the correct terminology to effectively utilize the search feature.
- Include resources for special populations (i.e., persons experiencing homelessness) and resources for common barriers such as transportation, childcare, insurance, and those with a dual diagnosis.
- Positive messaging for those beginning their search for treatment and encouragement as they navigate the website.
- Language that makes it clear to family members that the questions asked are meant to be answered for the person experiencing substance use disorder (SUD).

During one of the initial focus groups conducted in Year Two, participants recommended speaking with insurance company representatives since the level of care is often determined by insurance. This resulted in CSU/*drughelp.care* staff conducting two focus groups with representatives from CareSource, a nonprofit insurance company that mainly serves Medicaid members, where participants were asked about insurance approval for specific types of SUD/OUD treatment. Providers indicated that any treatment that is considered "medically necessary" will be covered, however, this language is open to interpretation and is often somewhat subjective. As far as determining the types of treatment available, insurance providers look at the type of substance, the frequency of use, how the drug is taken (snorted, injected, etc.) the gender of the patient, pregnancy, and minor status. It was also noted that coverage for Inpatient Withdrawal Management (detox or rehab) is limited, focus group participants from CareSource indicate that detox lacks continuity of care and carries a high-risk of overdose.

Another focus group was done with a group of 9th graders to look at the language and functionality of the new crisis hotline feature on the web app and to assess the accessibility of the feature for laypersons. The students found many of the features satisfactory but made a few suggestions about adding descriptions to website categories.

Web App Enhancements

A number of enhancements continued to be made to *drughelp.care* in Year Two:

- GUI (graphical user interface) improvements for consistency and professionalism;
- Stylistic aesthetics were corrected, such as page headers, to improve CSU brand standard consistency throughout the website;
- Simplified and refined the website's functionality;
- Ensured that CSU Twitter feed opens in a new tab;
- Showing the text "0 services available" when the selected filters do not produce any results;
- Stopping audio when a user navigates away from an informational video;
- Added educational video on treatment types for substance use;
- Added a new sort option to display results on the website;
- Users may now sort by a zip code of their choice; results will be sorted by the distance from that zip code in miles;
- Added a button to export filtered search results to an Excel spreadsheet for printing, printed results can be given to clients;
- Added code behind the scenes that allows CSU to send mass emails from CSU's domain name email address;
- Updated "View Services Page;"
- Added new filters for agencies that work with Autism Spectrum Disorder, ADHD, and PTSD;
- Added a new intervention filter for Contingency Management Therapy;
- Added a map view option for search results;
- Corrected a glitch that was not displaying the correct fonts on Mac computer; and
- Updated the Treatment Types educational video.

One particularly useful feature that was added to the website toward the end of Year Two is the integration of a treatment services map utilizing Google. The map requests access to the end-user's location and then allows them to filter services based on needs to view services available in their area.

Agency Registration

In Year Two, *drughelp.care* continued to register new agencies and update new services on its web app. There were 46 agencies registered prior to the OD2A grant and the goal was to increase the number of registered agencies to 96 over the three-year grant period. By the end of Year

Two, there were 98 registered agencies, despite two agencies permanently closing in September and another agency permanently closing in November, 2020 (Figure 51).

Although Year Two also saw a number of treatment services closing, *drughelp.care* was able to exceed their goal of increasing the number of registered agencies by 2%. The total number of active services available in the web app at the end of this grant year was 498 (Figure 52). This also factors in one of the agencies consolidating four of their programs into two. Due to COVID-19, however, several services remain temporarily closed. As of August 2021, 19 treatment services were still inactive.

The number of agencies making updates on the web app was also tracked (Figure 53). One unique feature of *drughelp.care* is to provide agencies and clients with close to real-time information regarding treatment availability by number of open slots, treatment type, and location. Year Two saw a slight decline in the percentage of agencies making updates, dropping from 56% in September 2020 to 40% in August 2021. However, the number of agencies making updates each month averages 41 which exceeds the target outcome of a 10% increase in the number of agencies making updates from baseline (n=25). It also makes sense that with the increase in registered agencies and the temporary closure of some services due to COVID-19, there would be a small decrease in the percentage of agencies making updates. The number of registered services on *drughelp.care* increased by 70%, for a total of 498 active services. Eleven services have closed since the beginning of the grant and some services have been consolidated.

Figure 51

Agencies Registered on drughelp.care from September 1, 2020 to August 31, 2021

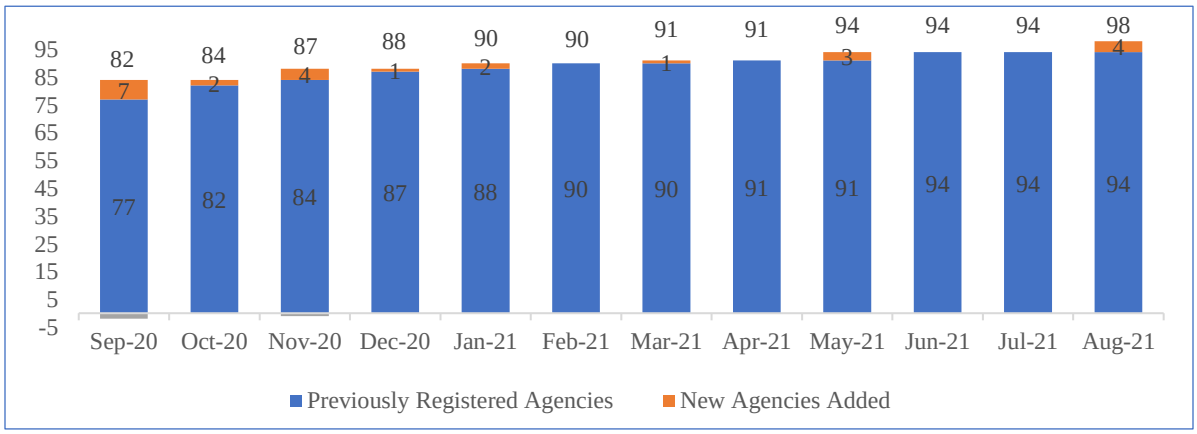


Figure 52

Active Services on drughelp.care by Month September 1, 2020 to August 31, 2021

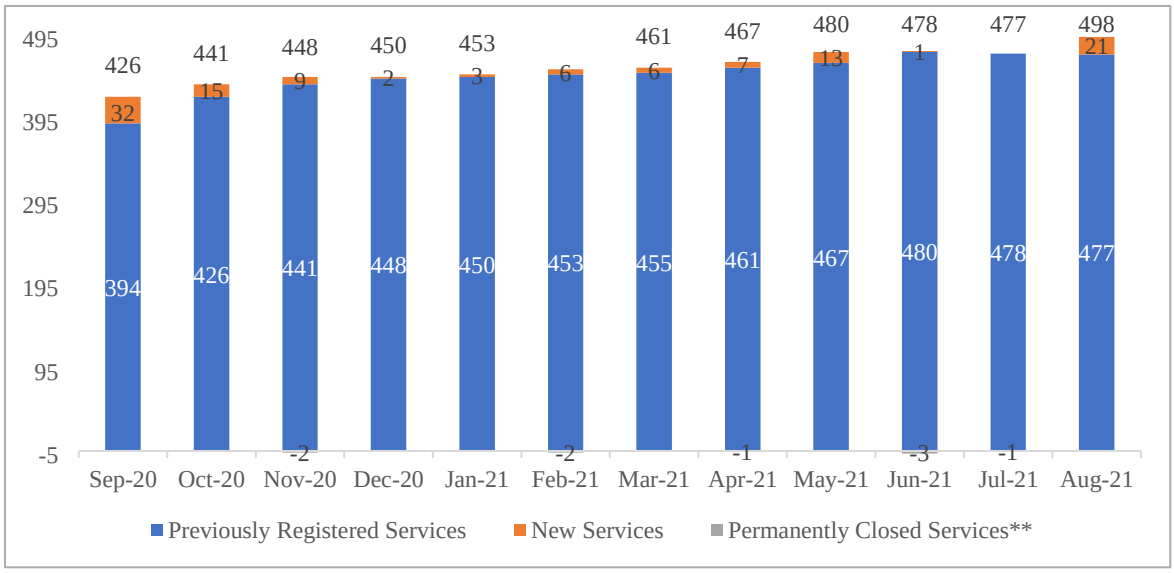
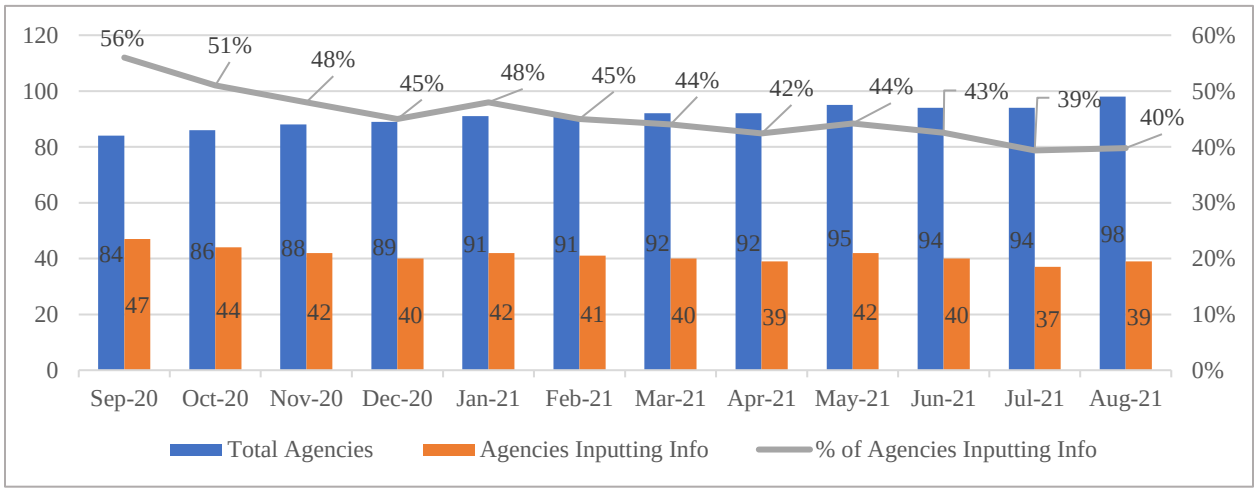


Figure 53

Number of Agencies and Percent of Total Agencies that Updated at Least One Service from September 1, 2020 to August 31, 2021

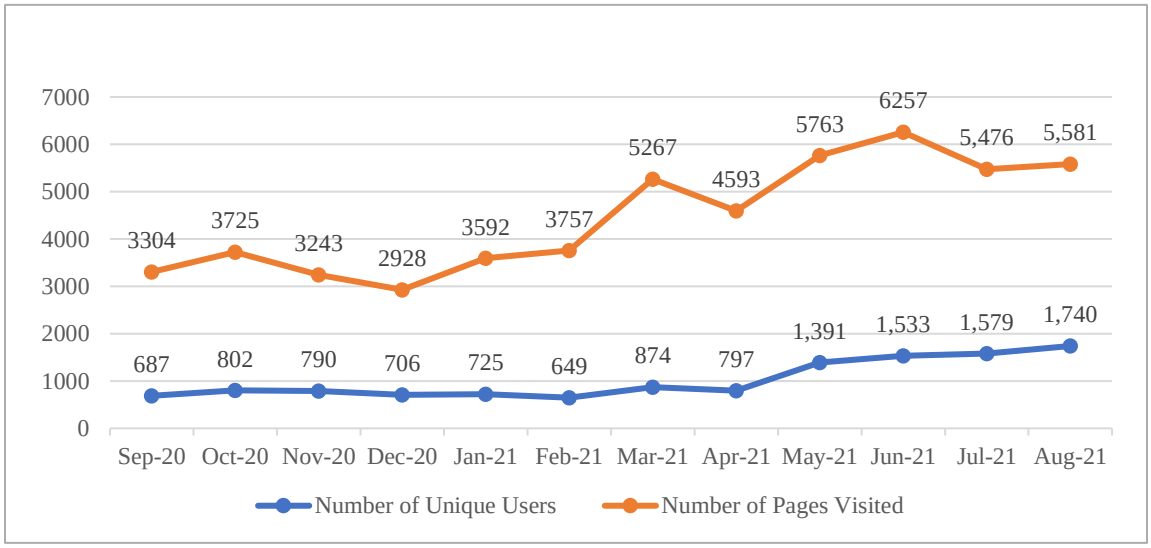


The number of unique users accessing the *drughelp.care* website is measured using the Internet Protocol (IP) address. Beginning in February of 2021, a large number of international IP addresses began appearing on the website analytics, this resulted in a steep increase of both unique users and pages visited (Figure 54). The total number of unique users as measured by IP

address in Year Two was 12,273, far exceeding the goal of a 20% increase of users over the three-year period.

Figure 54

drughelp.care Unique Users and Page Visits by Month



Web App Training

One process measure for CSU is to track the training of service providers, first responders, and criminal justice system staff on the *drughelp.care* web app. In Year Two, 20 trainings were held with approximately 133 participants from 15 different agencies. This was a significant increase from three trainings with 55 participants in Year One. The majority of the trainees were from the North Royalton Police Department. Trainees also came from the Ohio START (Sobriety, Treatment and Reducing Trauma) Program, an intensive service that focuses on child maltreatment and parental SUD, and Frontline Services, a behavioral health non-profit entity. In the last two years 188 first responders were trained on the web app, exceeding the goal of 100 staff trained over three years.

Registered Agencies Utilizing Evidence-Based Practices

In Year Two, CSU made steps toward tracking data for the long-term outcome of ***increasing the provision of evidence-based treatment for opioid use disorder.*** To do so, they examined the number of registered services utilizing evidence-based practices (EBPs) from 2019 to 2021. Ten different EBPs were identified (Table 56).

Table 57

Increase in Registered Services Utilizing EBPs on drughelp.care

	Active Services		
Evidence-Based Practice	11/25/2019	12/1/2021	Change (n) ↑
Cognitive Behavioral Therapy (CBT)	47	172	125
Motivational Interviewing	238	381	143
Harm Reduction	111	189	78
MAT (Buprenorphine, Methadone or Vivitrol)	171	292	121
Allow (but don't prescribe) MAT	39	75	36
Twelve-Step	201	316	115
Psychoeducation	124	222	98
Dialectical Behavior Therapy (DBT)	127	200	73
Trauma Focused Counseling	183	319	136
Contingency Management Therapy	39	42	3
Total	1280	2208	928

Over the last two years, CSU has been able to increase knowledge in the community about EBPs available in Cuyahoga County, registering information about 928 additional treatment services. Educating clients and providers about these services further assists in reaching and linking clients to treatment.

VI. Prevention Strategy Seven

Strategy 7 focuses on providers and health systems support. Activities associated with this strategy are:

- Develop an Academic Detailing (AD) program for opioid safety and overdose reduction;
- Develop a toolkit to expand the use of AD and other educational resources to additional hospital and non-traditional settings; and
- Expand Medication Assisted Treatment (MAT) capacity in Emergency Departments (EDs).

Agencies

Center for Health Affairs (CHA)

Cuyahoga County Board of Health (CCBH)

MetroHealth Medical Center (MetroHealth)

Develop an Academic Detailing Program for Opioid Safety and Overdose Reduction and Develop toolkit to expand use of academic detailing and other educational resources to additional hospital and non-traditional settings – MetroHealth & CHA

As part of Strategy 7, MetroHealth is working with CHA to develop: (1) an AD program for opioid safety and overdose reduction; and (2) create a toolkit to expand the use of AD to additional hospitals and non-traditional settings. These two activities are presented together as there is significant overlap in both the process measures and the short term and intermediate outcomes. There is one evaluation question for these activities which examines how ***AD increases opioid safety prescriber practices; i.e., reduce the number of opioid prescriptions and increase referrals for alternative pain management.***

Table 58

Short-Term and Intermediate Outcomes for AD Program

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Increase # of providers receiving training related to AD	Data not previously collected	30	31	21	Achieved
Increase in # of providers receiving AD	Data not previously collected	30	0	102	Achieved
Increase in # of providers receiving training on alternative pain management	Data not previously collected	↑10%	12	5	Although new providers are receiving training, the number trained was not the projected increase.
Increase number of hospitals and non-traditional systems using toolkit	Data not previously collected	4	0	6	Achieved
Increase use of non-opioid medications and non-pharmacological treatments for pain management	Data not previously collected	↑10%	36	26	Although providers are increasing use of non-opioid medications and non-pharmacological treatments, the number was not the projected increase.
Increase in knowledge gained by providers from training on AD and alternative pain management	Data not previously collected	↑10%	0	In Progress	MetroHealth AD Program currently testing survey tools to measure this outcome
Decrease in high risk prescribing behaviors for medical providers who received AD	Data not previously collected	↓10%	0	In Progress	MetroHealth AD Program currently testing survey tools to measure this outcome

Develop an Academic Detailing Program

MetroHealth continues to facilitate the development of AD processes including implementation at its MetroHealth Medical Center and training other organizations to replicate new processes within their facilities. The Educational Opioid Safety Task Force (OSTF) at MetroHealth meets and discusses initiatives related to AD as well as hospital education regarding opioids. This committee addresses the needs of the units and departments within the organization. **During**

Year Two, 3 people received "train the trainer" training to provide Academic Detailing, two from MetroHealth and one from CHA.

CHA also has been working toward the development of the program. The CHA program team began developing stages regarding AD strategies and alternative pain management educational resources, as well as countywide provider training to increase utilization of evidence-based approaches involving Opioid Use Disorder (OUD) prevention and intervention. CHA launched the Opioid Management Toolkit in April 2021, which aimed to assist providers with improving their opioid prescribing practices (see https://opioidconsortium-education.org/od2a/index). Additionally, CHA created short academic-detailing videos for their Opioid Management Toolkit. **In collaboration with the MetroHealth Academic Detailing Lead, CHA also created an academic detailing course based on the Veteran's Health Administration, NaRCAD, and MetroHealth models.** This course will be used to train academic detailers in other health systems.

Increase providers receiving training related to academic training

Although MetroHealth began providing AD training to providers in Year Two, MetroHealth continues to also provide additional training to providers relating to academic detailing. In Year Two this occurred during new hire training. During the training the Office of Opioid Safety presents overall Opioid Use Disorder/Substance Use Disorder (OUS/SUD) education and resources surrounding MetroHealth policies and information about Ohio's laws and regulations regarding OUD/SUD. The presentation provides best practice and guidelines that all providers must follow. Networking also allows for MetroHealth to initiate and introduce AD, a positive approach when caring for a patient with on long term opioid therapy. **During Year Two, 21 new hires received this training, exceeding the target**.

Increase providers receiving academic detailing

New in Year Two MetroHealth initiated its AD program. **During Year Two, 102 providers received training on AD, exceeding the target** (Table 58).

Table 59

Description of Providers Receiving Educational Training on AD

Occupation	Profession	Number Trained
Medical Doctor		82
Nurses	Advanced Practiced Registered Nurse (APRN)	18
	Certified Nurse Practitioner (CNP)	0
Physician's Assistant		2
Total		102

In January 2021, MetroHealth hired a full-time position to serve as the academic detailer within the Office of Opioid Safety and academic detailing session began that month. Working with Begun Center staff, a three-part survey tool was developed to capture: (1) each attendee's level of knowledge regarding opioid prescribing practices and habits (Pre-Meeting Survey), (2) obtain immediate feedback from the meeting with the academic detailer (Meeting Feedback Survey), and (3) identify any changes in behaviors after six months (Post Meeting Survey). Currently Begun Center Staff and MetroHealth staff are reviewing current response rates and assessing areas for survey tool improvement. The surveys were first distributed in April 2021 and since that date there has been a 69% (n=54) response rate for the Pre-Meeting Surveys and a 27% (n=21) response rate for Meeting Feedback surveys. Post Meeting surveys were not distributed in Year Two as not enough time had elapsed between the meeting date and follow up timeframe. A primary goal of the survey tools is to track each trainee's progress over time, however of the 54 individuals who completed the Pre-Meeting Survey, results indicate that only 26% (*n*=14) also completed the Meeting Feedback survey. Assessment and review of these data collection tools will continue in Year Three.

Increase use of non-opioid medications and non-pharmacological treatments for pain management

Through this project MetroHealth seeks to identify three types of alternative treatment to opioid prescribing. Two possible treatments that emerged in Year One were Nitrous Oxide and pain blockers. A total of 5 ED physicians attended training on alternative pain management in Year Two. **In Year Two, 26 ED clients also were linked to alternative pain management**.

Create a toolkit to replicate an AD program and other educational resources for other hospital systems

In Year One, MetroHealth provided four technical assistance sessions to CHA on the development of the toolkit, tentatively titled, *OD2A Opioid Mitigation Toolkit*. Discussions included best practices and plans to develop/enhance a dashboard to capture appropriate data and effectively establish AD. It was decided that the toolkit would be comprised of the peer review model process developed by MetroHealth, AD information, and additional educational resource information for hospitals and providers. The additional sources include information for pharmacists, a collection of local resources, an opioid information provider course, and a seminar page for posting partner and CHA webinars. **A schematic detailing the toolkit components was developed by the CHA program manager.**

During Year Two, CHA developed and uploaded the toolkit to its website for use by other hospitals with the Opioid Management Toolkit website going live on March 30, 2021 (https://opioidconsortium-education.org). **Since going live in April 2021, CHA has reported six hospitals have downloaded and begun adoption of the toolkit.**

Expand MAT capacity in ED – MetroHealth

Through education and training, MetroHealth is working to increase the number of medical providers in the ED with a Drug Enforcement Administration (DEA) waiver. To be eligible for a DEA waiver, a provider must receive training on MAT. Providers can then 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 is also working to incorporate treatment for opioid, alcohol and nicotine addiction into its MAT ED protocol.

Table 60

Short-Term and Intermediate Outcomes for ED MAT Referrals

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Increase the number of providers receiving training on MAT	6	↑10%	25	4	Achieved
Increase the number of providers with a DEA waiver	70	↑10%	25	1	33% achieved
Increase the number of clients linked to MAT	90	↑10%	89	72	Achieved

Increase the number of providers receiving training on MAT and a DEA waiver

Despite COVID-19 MetroHealth has facilitated training for its providers on MAT. **In Year Two 4 ED providers completed training on MAT and one provider has applied and awaiting on their DEA Waiver.** In addition to ED providers receiving training on MAT, MetroHealth is also providing the training to other providers within the hospital system, a total of 63 additional providers received training on MAT in Year Two.

Increase the number of clients linked to MAT

MetroHealth is continuing to refer clients to MAT from the ED. In Year One, 89 clients from the ED were linked with MAT. MetroHealth achieved 90% of the target already in one year. In Year Two, to facilitate clients' linkage to MAT, MetroHealth collaborated with the MAT clinic to create "bridge" clinic appointments for ED MAT patients which are scheduled prior to discharge from ED. The program team developed standardized discharge instructions, standardized documentation and a calculator for addiction assessments The team also developed a reporting dashboard in Epic® for providers to track their patients on MAT and other compliance metrics (toxicology screens, labs, PDMP checks etc.) MetroHealth reported referring 83 ED clients to MAT and 87% (*n*=72) were linked to care.

VII. Prevention Strategy 8

Strategy 8 focuses 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 are:

- Enhance nonfatal overdose incident data collection, utilization, and dissemination;
- 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;
- Implement outreach to nonfatal overdose victims;
- Expand Police-Assisted Referral (PAR) card - now referred to as "Link2Care Card" - use to Heroin Involved Death Investigation (HIDI) detectives/others;
- Enhance "compassion fatigue" awareness and training for HIDI detectives/law enforcement (LE)/first responders and secondary responders; and
- 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.

Agencies

Alcohol Drug Addictions and Mental Health Services Board (ADAMHSB)

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

Cleveland Division of Police (CDP)

Cuyahoga County Board of Health (CCBH)

Enhance Nonfatal Overdose Incident Data Collection, Utilization, and Dissemination & Expand CDP CAD System to improve observation and recording of NF data

The evaluation question tied to this activity is ***how can law enforcement improve the tracking and notification of nonfatal opioid-related overdose incidents.*** As previously discussed in Strategy 3, the use of law enforcement data regarding nonfatal overdoses provides a wealth of information, including identification of where overdoses are occurring in Cleveland.

Table 61

Short-Term and Intermediate on Overdose Incident Data Collection and Recording

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Improve coordination of Public Health and Public Safety Efforts with DUAs for sharing and integration of nonfatal overdose	0	2	0	Although data is received from CDP and CCMEO, no DUA is in place as data is public record	DUA with Euclid Police Department in Progress
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	In Progress
Increase data reports of nonfatal overdose data available from LE	0	↑10%	0	1	In Progress

In Year Two public safety incident data for the top three cities experiencing drug-related overdose deaths was received: Cleveland, Parma, and Lakewood. Although the drug overdose incidents are not available for real-time monitoring, they are useful for identifying community-level drug trends, identify hot spots and provide information to MetroHealth's Quick Response Team (QRT) for harm reduction activities. The OD2A surveillance team is currently working with Euclid Police Department (PD) to access overdose incident reports through a Data Use Agreement (DUA). Execution of the DUA is anticipated in Year Three.

To supplement the data received from CDP and Cleveland EMS (CEMS) in Year One, the Begun Center received additional data covering the period of May 1, 2019 to February 12, 2021. The de-identified data lists incident location, time and date of suspected nonfatal overdose incidents. The CEMS data identifies locations associated with overdose incidents and the CDP data identifies locations for calls for service associated with "sudden illness." Begun Center staff analyzes the data to monitor general trends and provide awareness of where overdoses are

occurring in Cleveland. The surveillance team also merged CEMS and PD incident data with drug-related overdose death reports provided by the Cuyahoga County Medical Examiner's Office (CCMEO). The analysis identified locations with multiple overdose incidents being reported by EMS, law enforcement and/or CCMEO. For example, several apartment complexes across Cleveland experienced high numbers of both fatal and nonfatal overdose responses. The analysis also identified single-family residences experiencing as many as ten overdose incidents and multiple fatal overdose incidents within the last few years. Identification of locations, which have experienced high volumes of incident responses, can be used by stakeholders to prioritize intervention, harm reduction, and other activities.

In Year Two the CDP was able to move forward with hiring an Intelligence Analyst housed in the Northeast Ohio Regional Fusion Center. The Intelligence Analyst will act as a liaison around overdose data with multiple other agencies including: CCMEO; the Drug Enforcement Agency (DEA); Alcohol Drug Addiction and Mental Health Services Board (ADAMHSB); High Intensity Drug Trafficking Area (HIDTA/HIDI); MetroHealth; St. Vincent Charity Medical Center (SVCMC) and several other agencies. The Intelligence Analyst will be instrumental in gathering, cleaning, analyzing, and disseminating overdose and other substance use data. In addition, the Intelligence Analyst will develop geospatial maps containing overdose data and overlaying layers related to such variables as calls for service, nonfatal overdoses, fatal overdoses, and other data points from systems such as Ohio Automated Rx Reporting System (OARRS) and the Overdose Fatality Review (OFR).

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

The evaluation question tied to this activity is ***how can Cuyahoga County improve and enhance partnerships with public safety and first responders to reduce opioid overdose-related deaths and nonfatal incidents.***

Table 62

Short-Term and Intermediate Outcomes for Outreach to Victims of Nonfatal Overdose

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Improve our understanding of the processes to link nonfatal overdose victims to care by first responders/case workers	0	2	0	5	1. Collaboration between CCSO and CDP are important for data collection. 2. Follow up with clients at 90 days. 3. Contact at incident location in addition to residential address. 4. Outreach to family and friends is an additional way to connect with clients. 5. Reduce time from overdose incident to notification to QRT.
Increase number of clients, family members or other who were contacted by MetroHealth QRT (Encounter)	0	↑10%	0	225	Achieved: Since data was not previously collected, any encounters would represent an increase.
Increase number of clients who agree to talk MetroHealth QRT (Engage)	0	↑10%	0	60	Achieved: Since data was not previously collected, any participation would represent an increase.
Increase number of clients referred for treatment by MetroHealth QRT (Referred)	0	300	0	46	15% achieved
Increase number of clients linked with treatment after QRT referral	0	↑10%	0	7	Achieved: Since data was not previously collected, any linkages would represent an increase.

MetroHealth serves as the agency to provide QRT services under this activity. The QRT receives guidance from an advisory board. The MetroHealth QRT Advisory Board includes representatives from MetroHealth, DEA, Begun Center, Cuyahoga County Sheriff Department (CCSD), Northeast Ohio Regional Fusion Center (NEORFC), and CCBH.

Improve our understanding of processes to link nonfatal overdose victims to care

During Year Two, the MetroHealth QRT began outreach activities. The QRT activities are conducted in an operating environment significantly different from the other stakeholders involved in linking overdose victims to care. QRT activities are based on newly developed processes to identify and link nonfatal overdose victims to care. The QRT team proactively

identifies and approaches overdose victims in their residential environment and outside of a clinical or medical setting.

QRT outreach is determined from data identified by the Cuyahoga County Prosecutor's Office (CCPO) Crime Strategies Unit (CSU) Crime Analysts. This review by CCPO is the first part of a three-step process that results in QRT's contact with overdose victims. First, the CCPO Analysts conduct daily weekday queries of incidents identified by the CDP as 'sudden illness' incidents (the Monday query includes the prior weekend's reports). 'Sudden illness' reports from CDP include a broad range of incident characteristics beyond opioid-related incidents. CCPO uses that reporting category as an initial screening mechanism to identify potentially relevant reports. The CCPO Analysts collect relevant data from each incident. Second, that information is passed to the CCSD Crime Analyst located at the NEORFC, who then conducts additional address checks as well as checking with a CCSD Sergeant to ensure that there are no active criminal investigations occurring for any incidents that will be forwarded to MetroHealth QRT. Third, MetroHealth QRT reviews the information provided by the CCSD Analyst to identify and prioritize opioid related incidents and then attempts to proactively engage those overdose victims in their residential setting. MetroHealth noted that they are also in the process of finalizing an agreement with CEMS to receive identified data from opioid overdose incidents and that this would be added to the current data received.

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

MetroHealth has noted that contacting individuals at the incident address has been more successful than attempting to make contact at the residence address listed in the incident information (if the two are different). Residential addresses did not always appear to be recent and/or reliable. It is possible that the residence location listed on the police report was pulled from an Ohio Bureau of Motor Vehicle (BMV) query and may be out of date.

MetroHealth staff believe that the most effective aspect of the QRT program is the provision of resources to the families of the overdose victims. Family members of the overdose victim are receptive to discussion and receiving resource information and they appear motivated to work with getting the overdose victim linked to care, but they often lack the knowledge of available resources.

MetroHealth noted that they typically receive overdose incident data approximately 7 to 10 days after the incident. **Interaction with the opioid victims in the first 24 hours would likely achieve improved interactions and outcomes than the current model.** Although some overdose victims are transported to Emergency Departments (EDs) where a peer support group is operating providing an immediate opportunity for interaction, peer support is not on call 24/7 in MetroHealth's EDs. Staff have noticed instances where an overdose victim arrived, was treated, and discharged outside of peer support operating hours.

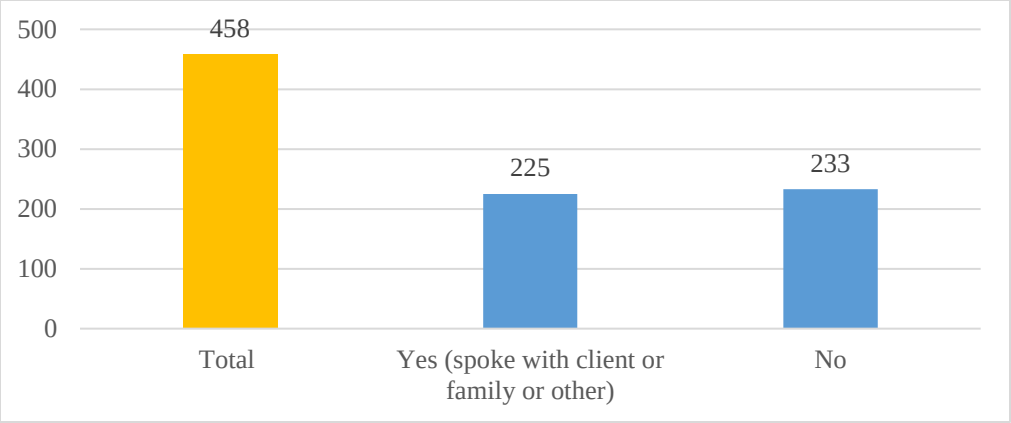
Encounter/Engagement in Program Services

During Year Two, several adjustments were made to the data collection for this activity to more accurately describe and capture the unique nature of MetroHealth QRT activities. QRT encounters include the number of clients, family members, partners, and roommates with whom QRT members interact with based on the reports received from law enforcement. From October 2020 through August 2021, the CCPO Analysts identified 1,197 incidents as 'sudden illness' by CDP and QRT initiated 458 outreach attempts. The average age of an overdose victim was 37 years (SD:12.3). The majority of the overdose victims were male (71%). Race was predominately white (70%), 25% of the overdose victims were Black, and race was unknown for 5% of the overdose victims.

QRT encountered 225 individuals, of which 27% (n=60) were the overdose victim and 73% (n=165) were family members, partners, or roommates of the overdose victim. (Figure 55). Reasons for not reaching the overdose victim were usually due to no one answering the door (81%) or no access to the house or apartment (16%).

Figure 55

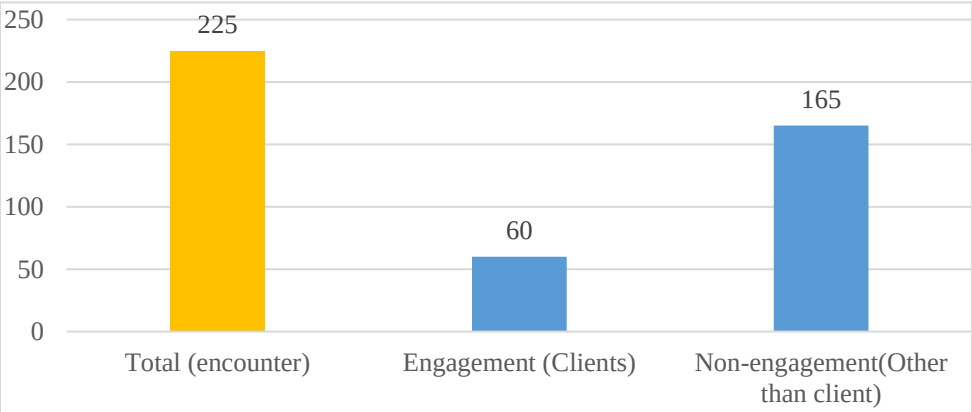
MetroHealth QRT Encounters from October 2020 to August 2021



For QRT, the definition of engagement includes all clients who agreed to receive materials and resources provided by the QRT (n=60) (Figure 56). Although initial focus had been to capture client specific data, as the QRT began operating, it became clear that engagement with individuals closely associated with the client would also be an important aspect of the work being conducted.

Figure 56

MetroHealth QRT Engagement from October 2020 to August 2021

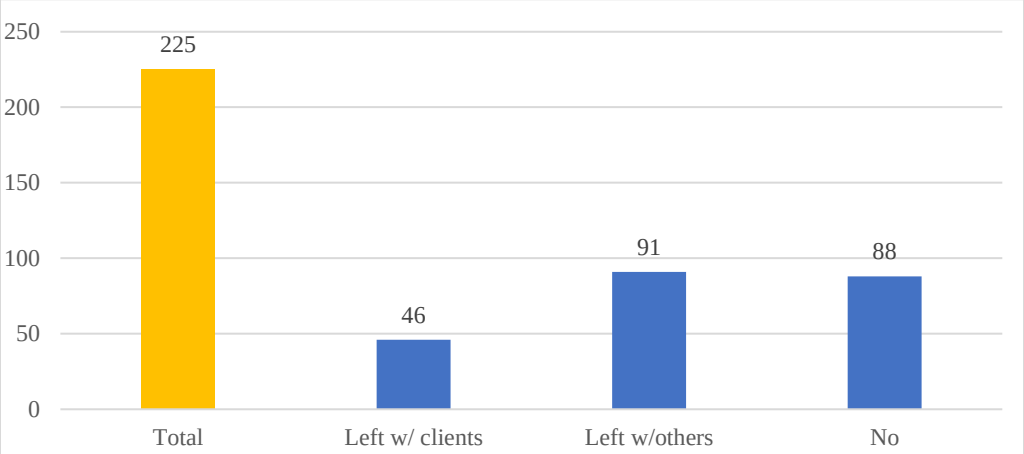


Referral to Treatment Services

Client referral includes QRT left materials with of the clients with whom they engaged (77%, n=46) and 55% (n=91) of the family members, partners, or roommates of the clients (Figure 57). These materials included business cards, a folder of resources, and/or pamphlets containing information regarding available resources and contacts.

Figure 57

MetroHealth QRT Referrals for Services/Materials Provided from October 2020 to August 2021



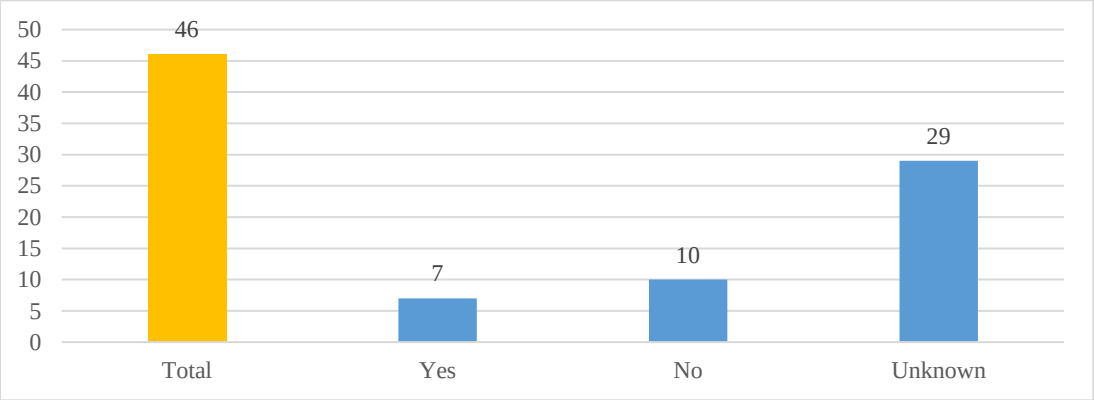
During MetroHealth QRT focus group discussions, MetroHealth QRT staff noted that often the family members they encountered needed other types of services and there has been discussion of preparing additional types of pamphlets and resources to link those family members to other types of medical and community services.

Linkage to Treatment

Of the 46 clients with which MetroHealth QRT engaged and left materials, as of August 2021, 15% (n=7) of those clients reported linkages to care. For MetroHealth QRT, linkage to care is defined as the number of clients who made an appointment for community treatment and continue receiving treatment. The MetroHealth QRT process also included 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 5 clients who had been linked to care (Figure 58).

Figure 58

MetroHealth QRT Linkage to Care from October 2020 to August 2021



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

Several activities are associated with the evaluation question which examines ***how Cuyahoga County can improve and enhance partnerships with public safety and first responders to reduce opioid overdose related deaths and nonfatal incidents.***

Table 63

Short-Term and Intermediate Outcomes on Enhancing Partnerships with Public Safety and First Responders

Description	Baseline	Target	YR 1 Data	YR 2 Data	Outcome Status
Increase number of Link2Care cards distributed to agencies	0	400	Link2Care Card Developed	6500	Achieved
Trainings on "self-care (compassion fatigue)" awareness & on local opioid related efforts.	0	8	3	17	Achieved
Enhance efforts to address needs of first and secondary responders through self-care/compassion fatigue training	0	50/yr.	0	12	In Progress
Increase jurisdictional awareness of opioid overdose epidemic and evidence-based approaches (including ACEs related risk factors) by public safety and first responder partners	0	50/yr.	43	427	Achieved

Expand Par Card Use to HIDI Detectives and Others

In Year One, a "PAR card" was developed, and is now referred to as a "Link2Care Card." Although the PAR card has not been utilized by CDP HIDI detectives as they are not routinely interacting with nonfatal overdose persons, the utilization of these cards has expanded to other providers who routinely interact with individuals in need of services. In Year Two, Link2Care cards were distributed by CCBH to a number of different agencies, including the Parma Police Department, the MetroHealth QRT, Relink, Project White Butterfly, and Lutheran Metropolitan Ministries. OD2A subgrantees also received Link2Care cards to distribute to clients and first responders. **In Year Two, CCBH distributed 6,500 cards to these agencies.**

Enhance Compassion Fatigue Awareness Training for First and Secondary Responders

During Year One scheduling of the Compassion Fatigue Awareness training for HIDI detectives and LE/first responders was delayed due to COVID-19. Steven Click, First Responder Liaison with the Ohio Department of Public Safety, was identified to conduct the training. In Year Two, scheduling issues and COVID-19 continued to impact the ability to deliver this training in person. After additional discussions, 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”.

Two virtual sessions were scheduled in May and June 2021 with 38 individuals registering for the training. **A total of twelve individuals attended the training.** The Begun Center and Mr. Click will continue to schedule trainings in Year Three with the expectation that in-person sessions will be included moving forward. Four sessions have been scheduled for October 2021.

Cross Training of Public Safety Forces to Raise Awareness of New Partnerships, Programs, and Challenges Regarding the Local Opioid Epidemic

The ADAMHSB and the County Board of Health are tasked with linking law enforcement, EMS, and emergency department staff with training to raise awareness of new partnerships, programs, and challenges (including Adverse Childhood Experiences (ACES) related risk factors) and information regarding the local opioid epidemic.

The ADAMHSB started Year Two by continuing to offer the *Caring for People in Crisis* training that was used to raise awareness about the opioid epidemic in the County. That training described how drug use affects mental illness and the use of communication and de-escalation techniques to interact with individuals in crisis. This training was offered in November and had 24 participants.

After experiencing barriers to training in Year One around COVID-19, in Year Two, the ADMAHSB was able to incorporate OUD awareness and ACES training into Crisis Intervention Training (CIT) for Cuyahoga County law enforcement, increasing engagement significantly and achieving their three-year targets for number of trainings and number of officers trained. This training covers both OUD and ACEs factors, as well as the impact of COVID-19, recognizing an overdose, treatment options (such as MAT, peer support, residential, etc.), trauma-informed care, and the lasting effects of adverse childhood experiences. This training is held twice monthly for a total of 14 CIT sessions in Year Two.

A total 427 law enforcement officers were trained in Year Two (Figure 59). The officers trained were from 40 agencies and their ranks varied from detectives to corrections officers to lieutenants. The majority of those trained were patrolpersons (n=230) and the rank of 51 participants were unknown. Tables 62 and 63 show the ten most frequently occurring agencies and ranks of participants.

Figure 59

Law Enforcement Training Attendance by Month

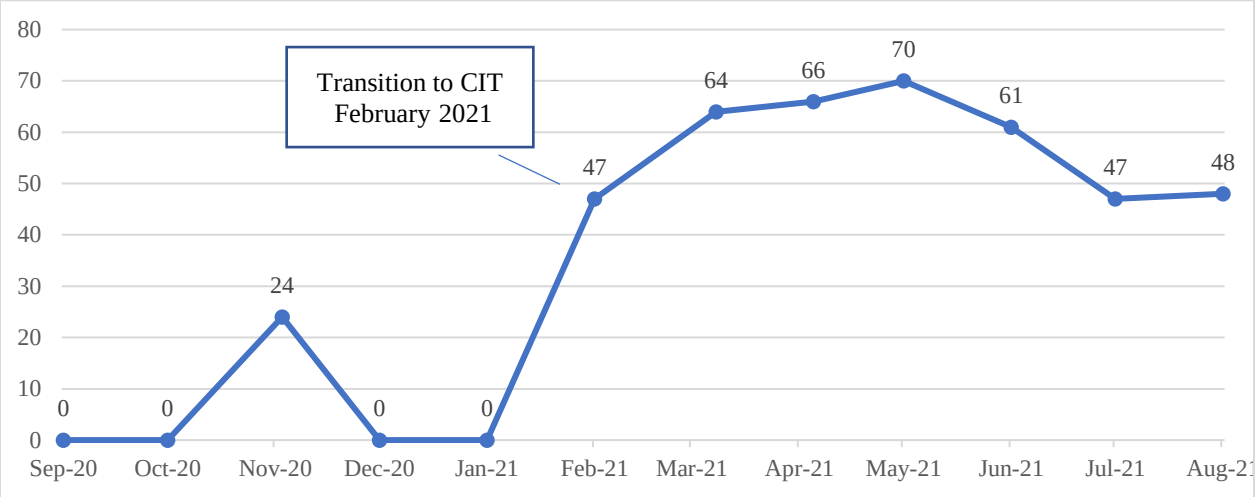


Table 64

Law Enforcement Agencies Attending OUD Training (10 Most Frequent)

Agency	Frequency	Percent
Strongsville Police Department	53	12.4
Cuyahoga County Sheriff	39	9.1
Greater Cleveland RTA Police Department	33	7.7
Cleveland Heights Police Department	30	7.0
Garfield Heights Police Department	28	6.6
Parma Police Department	24	5.6
Beachwood Police Department	24	5.6
Cuyahoga Community College Police	23	5.4
Mayfield Village Police Department	19	4.4
Lyndhurst Police Department	17	4.0

Table 65

Rank of Law Enforcement/First Responders Attending OUD Training (10 Most Frequent)

Rank	Frequency	Percent
Patrolperson	230	53.9
Unknown	51	11.9
Sergeant	43	10.1
Corporal	21	4.9
Detective	21	4.9
Lieutenant	16	3.7
Corrections Officer	10	2.3
Corrections Officer (SRT)	4	0.9
Deputy	4	0.9
Chief	3	0.7
Firefighter/Paramedic	3	0.7
Officer	3	0.7
Police Officer	3	0.7

VIII. OD2A Project Performance Assessment

This programmatic evaluation provides a third-party assessment of OD2A's implementation progress as reflected in the key themes and sub-themes discerned from analysis of the ***qualitative*** data collected from participating agencies between September 1, 2020, and August 31, 2021. Programmatic surveys are administrated quarterly by The Begun Center to the OD2A participating agencies to facilitate identification of challenges and facilitators impacting OD2A success. Data from the surveys are presented from each quarter to document how challenges changed over time or were addressed. Survey questions inquire about program successes and challenges, dissemination of knowledge gained from program activities, unexpected outcomes, and innovative ideas that developed out of project activities. Focus groups and individual interviews also were held at the end of the year with staff from the participating agencies and one community stakeholder to gather more insight into the day-to-day activities surrounding the OD2A Initiative. Twelve focus groups and three interviews were conducted during August and September 2021. Participants totaled 43 persons, comprised of CCBH staff, 9 other OD2A participating agency staff, and one hospital ED director/physician. Focus groups/interviews were centered on 11 questions that explored Year Two in terms of five topical areas: (1) project implementation, (2) lessons learned, (3) data, (4) understanding the opioid epidemic, and (5) "other points of discussion."

The qualitative data collected provided opportunities to explore descriptions of agency staff members' and a community stakeholder's experiences, perceptions, and opinions of planning and implementation that were offered in their own words and were outside The Begun Center evaluators' knowledge. In addition to the Cuyahoga County Board of Health (CCBH), the other OD2A agencies that participated included: The Alcohol, Drug Addiction and Mental Health Services Board of Cuyahoga County (ADAMHSB); Center for Health Affairs (CHA); Circle Health Services (CHS); Cleveland State University (CSU); Cuyahoga County Medical Examiner's Office (CCMEO); MetroHealth Medical Center; Educational Services Center of Northeast Ohio (ESC-NEO); PAXIS Institute (PAXIS); St. Vincent Charity Medical Center (SVCMC); Thrive; and The Woodrow Project. ESC-NEO and PAXIS Institute paused participation in the OD2A project beginning in Quarter 2 of this year, as reflected in the data presented below.

For quarterly programmatic survey data collection, written qualitative data was directly submitted via REDCap® to The Begun Center by participating agencies. For the annual focus group and interview data collection, two Begun Center evaluators directed the audio-recorded focus groups and one Begun Center evaluator conducted the audio-recorded interviews. This verbal qualitative data was collected via Zoom or the telephone. Audio recordings were

transcribed via Otterai® and the resulting transcripts were cleaned by two 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, DOI: 10.1177/1403494812465030). 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 were then grouped together into discrete meaning units related to OD2A 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. Finally, the evaluator developed a list of key themes.

The primary findings from the programmatic data collected quarterly from the OD2A participating agencies is arranged below divided among seven key themes (see Table 66). The primary findings from the focus group and interview data collected annually are presented below where relevant following the programmatic data and divided among the key themes. 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 66

Key Themes of the Qualitative Data

Key Themes	Details
1. Developing Organizational Capabilities for Quality Implementation	Agencies defined outcomes in alignment with the program strategies and identified potential resources for improving the quality of the program.
2. COVID-19 Pandemic Impacts and Adaptations	Agencies described challenging impacts of and key adaptations to the global pandemic.
3. Improvements	Agencies identified improvement in their activities and/or outcomes.
4. Leveraging Resources	Agencies recognized and/or leveraged resources.
5. Identifying Challenges	Agencies identified challenges to program implementation and explored possible ways to overcome them.
6. Exploring Innovative Ideas	Agencies explored innovative ideas to overcome challenges and build their programs.
7. 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.

Theme 1: Developing Organizational Capabilities for Quality Implementation

Q1 – September 1, 2020, through December 31, 2020

CCBH furthered quality implementation of OD2A activities and processes by developing an official CCBH OD2A webpage link, a draft of the webpage layout, and finalizing the OD2A website page name. This webpage houses the overdose data dashboard, data bulletins, and the DOIEP. In partnership with the Begun Center evaluation team, the overdose data dashboard was nearly finished. CCBH presented the Year One Quarter Three Data Bulletin at the CCOTF meeting in December, at which time CCBH introduced the bulletin, explained that it will be released on a routine basis and provided some standard data indicators with emerging trends.

The other OD2A participating agencies also continued to develop their organizational capabilities. CSU registered 56 new services offered by 13 agencies bringing the total to 448 services offered by 87 agencies registered on their website *drughelp.care*. Since launching the

new website in March 2020, CSU had been reaching out to agencies to increase their rate of daily updates. On average, 52% of services updated the available slots and wait time information each day. CSU also had begun training service providers to use *drughelp.care* and trained 24 individuals from different service providers.

PAXIS trained Partners and internal Sustainability Teams at schools implementing the PAX GBG program. These additional measures enabled school administrators and staff to support and sustain their PAX GBG and improve outcomes for teachers and students. These increased training opportunities via ESC-NEO enabled PAXIS to reach more teachers and students in Cuyahoga County.

Q2 – January 1, 2021, through March 31, 2021

CSU furthered implementation of their OD2A activities by reaching out to the CSU School of Social Work field education director for assistance in connecting with students working in agency field placements throughout the county. CSU sought to train these students about *drughelp.care* so that they could assist in getting the word out about the website to more agencies. The SVCMC SBIRT team also succeeded in furthering quality program implementation by continuing to reach out to, educate, and collaborate with other departments and disciplines throughout the health system. These actions resulted in more providers relying on SBIRT throughout the system as a conduit for more holistic and integrated care. Thrive also reported furthering quality implementation by expanding its hours of peer support services to 24 hours a day, 7 days a week.

Q3 – April 1, 2021, through June 30, 2021

CCBH accessed a more comprehensive naloxone-distribution dataset via the Ohio Department of Health, which is now providing CCBH with quarterly data on all state-registered Project DAWN programs in Cuyahoga County. CCBH also integrated National Forensic Laboratory Information System (NFLIS) data into their county analyses. Additionally, CCBH reconvened virtually its quarterly OD2A participating agency meeting that allowed sub-grantees to highlight their work and provided CCBH the opportunity to educate the diverse sub-grantees on key terminology around public health activities (e.g., “linkage to care”) and the ongoing data needs of CCBH’s surveillance efforts.

By reframing its original OFR workgroup structure, the CCMEO improved its OFR efforts around recommendations for interventions based on case details. Initially CCMEO

> Had hoped to create workgroups regarding each recommendation category (7 categories) to help to facilitate discussion and implementation.... As [CCMEO] had meetings with ... separate workgroups, it became apparent that each

> workgroup was overlapping in discussions, ideas, and participants. [CCMEO] re-shuffled [the] workgroup plan and compiled all workgroups into a larger workgroup ... to help facilitate a productive, non-repetitive discussion.

The CCMEO also incorporated into the OFR meetings two new partner agencies—the Department of Veteran Affairs and the Parma (Ohio) Police Department—and developed a process to host guest meeting attendees when a case may be relevant to their expertise (e.g., men's homeless shelter representatives).

Hospital consortium agency CHA launched the Opioid Management Toolkit in April 2021, which aimed to assist providers with improving their opioid prescribing practices (see https://opioidconsortium-education.org/od2a/index). CHA also strengthened its Toolkit marketing initiative by launching a LinkedIn® marketing campaign that generated views from 30 healthcare organizations in Greater Cleveland. Additionally, CHA created short academic-detailing videos for their Opioid Management Toolkit. In collaboration with the MetroHealth Academic Detailing Lead, CHA also created an academic detailing course based on the Veteran's Health Administration, NaRCAD, and MetroHealth models. This course will be used to train academic detailers in other health systems.

Other agency improvements include CSU's registering of three new agencies and addition of 25 new services to their d*rughelp.care* website and continued refinements to the website. MetroHealth's prescriber review team made improvements by finalizing "a reporting system to send to individual providers to inform them regarding the findings of their reviews." In collaboration with CCBH, Thrive improved their peer-support services by distributing referral cards providing contact information for Thrive and other related service providers in Cuyahoga County to ED patients who have experienced an opioid overdose.

Additionally, Woodrow implemented improvements in participant-related data collection processes by reaching out via text, email, phone and mail to participants five to seven days after they have interacted with a peer recovery supporter. According to Woodrow,

> We worked together to make the transition from one data collector and reporter to having two [peer recovery supporters] who could each perform one area of the work. Each peer [peer recovery supporter] is supported to complete their area of the work to [in turn] complete the data piece of our grant.

Q4 – July 1, 2021, through August 31, 2021

CCBH's *Strategy 3* surveillance capabilities increased this quarter in the following ways: CCBH data analysts, in partnership with The Begun Center, released the Quarter 2, 2021, Data Bulletin

comprised of infographics of some standard data elements, highlights surrounding the new Cuyahoga County Diversion Center, and a statement from the CCMEO about the rise in overdose deaths in Quarter 2, 2021. Additionally, CCBH data analysts completed the Vital Statistics and EpiCenter Linkage Data Brief, an innovative, proof of concept data linkage analysis of EpiCenter ED visit data of individuals who went to the ED multiple times and Vital Statistics death certificate data of individuals who died of drug poisoning. CCBH and The Begun Center also gained access to and analyzed Millennium Health drug testing data with the goal of comparing it to CCMEO toxicology data.

CCBH planned to build on these strategy successes by:

- Fully overseeing maintenance and updates of the CCBH Overdose Data Dashboard;
- Employing new Tableau® skills to develop other products for dissemination;
- Posting to the CCBH website the recently completed EpiCenter/Vitals Statistics linkage Data Brief; and
- Completing the first COVID-19 and drug overdose data brief.

The other OD2A participating agencies also continued to develop their organizational capabilities. CCMEO has found it informative to have a Veteran Administration (VA) representative participating on the OFR to explain available services and provide flyers and other resources for distribution. The OFR is brainstorming possible distribution locations for flyers, including homeless shelters. CHS witnessed an increase in service use since opening the Rocky River Dr. location three days a week (MWF). CSU registered 21 new treatment services provided by four agencies to *drughelp.care*. CSU also made connections with various student-facing departments at CSU, including the Counseling Center, Health Services, and Student Life. CSU also made marketing materials such as posters and stickers more readily available on campus. MetroHealth's Office of Opioid Safety service menu now includes the Motivation & Engagement Clinic, located at main campus. The clinic will provide patients with opioid use disorder access to low-threshold care. The clinic will offer Medication Assisted Treatment (MAT), level-of-care assessments, case management services, group/individual counseling, peer support services, and care coordination. Woodrow is growing its peer support program by expanding to two new EDs and has set the necessary foundation to do so next quarter.

During the focus groups, staff were asked the two following questions about program implementation and whether any changes were needed to ensure top quality implementation:

Focus Group Question 1. How closely have your implemented activities matched your originally planned activities?

a. Implementation Matched Original Plans

1. "Putting the structure in place took us a while ... because of a pandemic and trying to work in a virtual world," said a CCBH *Strategy 3* participant, but "it's been pretty smooth sailing since then."

2. "The toolkit was envisioned," said a CHA participant, "as something that ... [we] really wanted to have happen and that came to fruition. Not probably in the exact timeframe they wanted ... but it did get up there." A CCBH *Strategy 4* participant who worked closely on this initiative agreed, "As far as [*Strategy 4*] activities," they said, "I'd say we're pretty much on target." The CCBH participant also added:

> MetroHealth and CHA have worked really nicely together. You know, initially, we had some hiccups along the way when finding the right people to connect each other with, but once the right team was identified they really worked seamlessly to make a really great product that I hope a lot of the providers will be able to utilize in future.

3. Our Year 2 OD2A covered our SVCMC project," noted a Thrive participant, "and really it has gone exactly as planned, which has been nice. We did have quite a few changes under our Year One funding, but our Year Two implementation has been pretty smooth sailing."

b. COVID-19 Pandemic as a Primary Catalyst for Implementation Changes

1. CCMEO noted that moving the OFR meetings from in-person to virtual ones has improved attendance because it is easier for more stakeholders to participate. CCMEO plans to continue the virtual format.

2. CCMEO also piloted OFR of "suspected" vs. "ruled" opioid-overdose cases because there was a spike in the number of overdose deaths among persons who gained early release from jail due to the pandemic. After reviewing a case that turned-out to be ruled an alcohol-related death, the CCMEO determined it is better to review only ruled cases so they returned to the original implementation design.

3. MetroHealth *Strategy 6* participants discussed a variety of pivots imposed by pandemic-related social distancing and jail inmate release. As one explained,

> Our biggest work around was just having to communicate not only with the team, but with the courts, with [parole officers], with judges, since they also were not in the building. They did a lot of virtual hearings. We were just trying to figure out how to get notified when some of our clients were attending these video arraignments. We were able to attend a small handful. Because there's so many judges here at the jail, not all were on the same page as far as communicating with us about when they were going to have a hearing, who was our client, who wasn't our client. And I know our external coordinators, because they released so many inmates at the same time, had a hard time finding where these clients went off to. Some men just went home, some men just went into the streets. Just trying to keep up so we can do our follow-ups and linkage to care was quite difficult.

c. Other Implementation Changes

1. CHS lost the use of their van from which they previously provided mobile service and opened another site in a building in Rocky River.

2. The original goal had been for CHA and MetroHealth to develop an opioid prescriber course for MetroHealth's education portal. "But," explained a CHA participant, "we're adapting the all Ohio Medical School curriculum from NEOMED, which provides excellent, ready-made content and to already have that vetted and packaged," said the CHA participant, is great."

3. "Initially with SBIRT we were gonna be working to prescreen all of our medical-surgical inpatients and outpatients in our healthcare center," described a SVCMC participant.

> The original goal was to implement the intervention for all those folks and it wound up being really we could only tap the general medicine populations, so a subgroup of the entire healthcare center.... Our intervention was more narrow than what we had thought it might be initially.

Additionally, another SVCMC participant noted,

> [Our OD2A effort] had been initially envisioned almost like there'd be someone in the SBIRT role and sort of a case management role that would continue to work with people and follow people and help them navigate services and then do the six-month follow up. And I'm not exactly sure why that part fell through. I know that's not the typical SBIRT anyways, but those patients we saw were referred to someone else who could then do that work, but it just wasn't a SBIRT team member who was doing that work.

Focus Group Question 2. What changes have you made to your activities and why did you make them?

1. ADAMHSB requested names of decedents that were not part of the OFR process so that next-of-kin interview numbers would reach targeted project goal.

2. ADAMHSB also incorporated OUD training for law enforcement into the twice-per-month CIT training because there were too many competing and concurrent trainings for law enforcement.

3. CHS implemented a harm reduction survey to track clients' barriers to accessing treatment.

4. "With peer review and the chart review," observed a MetroHealth *Strategies 4 and 7* participant,

> [We] had done a big push of educating the doctors and things had really improved, but I kept seeing ... they didn't need a big full-blown meeting, but everybody was just missing something. We put together what we call the *stewardship report card*. And what that did is we reported individually to each doctor—anybody who prescribed chronic opioids—What did they prescribe? How many had benzos were co-prescribed? Did they use OARRS properly? How were the MMEs [morphine milligram equivalents]? Were they high? Were they low? Were there patient agreements?

5. A MetroHealth *Strategies 4 and 7* participant also noted that,

> We've had our academic detailer ... [arrange] to teach some of the clinics because one of the common denominators we saw is nobody was putting the Controlled Substance Agreement in the same place in the [medical] chart. She's now putting together a plan where she's going to go from satellite to satellite and just educate the people that do this on where it belongs.

6. One MetroHealth *Strategy 5* participant discussed the new MetroHealth mobile naloxone distribution unit noting that the pandemic seemed to "kind of push things along a lot quicker than we would have anticipated."

Theme 2. COVID-19 Pandemic Impacts and Adaptations (Note: This theme surfaced in programmatic data collected for Quarters 1 and 2 only.)

Q1 – September 1, 2020, through December 31, 2020

The COVID-19 global pandemic continued to impact OD2A activities in Cuyahoga County in wide-ranging ways. Many OD2A agencies continued to use restricted in-person or fully remote work environments, continuing to make adaptations as required by the regional trajectory of the pandemic. Many established effective virtual meetings and program management, as well as digital training methods and distribution of prevention/educational materials that may continue post-pandemic. In Year 2 the COVID-19 pandemic has affected some agencies more severely than others.

On the one hand, some agencies continued to experience pandemic-related challenges to completing their OD2A activities. For example, due to COVID-19 CCBH continued to experience barriers to fully staffing its *Strategy 3* team. As the county health department, CCBH's emergency response plans had been activated since March and COVID-19 response needs had taken priority over other staffing. Delays also occurred in the completion of the DOIEP and publication of the web-based overdose data dashboard. MetroHealth also was challenged with the COVID-19 surge this quarter, which caused varied accessibility to and from patients/clients and delaying or suspending service availability. Additionally, Thrive saw the long-term effects of COVID-19 on essential employees and are actively working to make sure peer recovery supporters are not experiencing burn-out.

On the other hand, some agencies either experienced no pandemic-related challenges or had developed work arounds to completing their OD2A activities. For example, the CHA program manager was able to have one in-person meeting with a partner agency in a safe setting (masked, socially distanced). Based on this success, CHA may try to have more in-person meetings, if the parties involved are comfortable doing so. CHS has seen an increase in the numbers of services provided by their mobile units, with an average of 80-100 clients overall per day receiving services at their two vans.

Q2 – January 1, 2021, through March 31, 2021

The COVID-19 global pandemic continued to impact OD2A activities in Cuyahoga County. Many OD2A agencies still used restricted in-person or fully remote work environments.

Due to COVID-19, CCBH ceased efforts through ESC to implement the PAXIS curriculum in the county's schools. The pandemic's severe impacts on the work of elementary teachers have limited their abilities to enroll in the program, and those who succeeded in doing so found it

challenging to integrate PAXIS into their virtual instruction. Additionally, Thrive peer recovery supporters continued to be limited in their outreach due to pandemic restrictions excluding family members and friends from accompanying individuals into EDs and hospitals. This situation—in combination with the fact that many individuals experiencing an overdose may not have a phone—limits peer recovery supporters' opportunities to acquire a variety of types of contact information for those who have experienced an overdose. For example, Woodrow reports that out of a pool of 40 clients, 87.5% were unable to be reached following 6 or more attempts.

With declines in the number of regional COVID-19 cases this quarter, some agencies had new success completing their OD2A activities. For example, CCBH reconvened the Quarterly Roundtable discussions with Franklin and Hamilton counties' boards of health. Additionally, the CHA project manager successfully registered for NaRCAD academic detailing training that was initially scheduled for June 2020. CHS saw growing numbers of clients participate in harm reduction services even though some service sites had been temporarily closed and new ones opened. MetroHealth also had started to see client/patient traffic flow begin to increase as COVID-19 case numbers decreased.

Theme 3. Improvements

Q1 – September 1, 2020, through December 31, 2020

Several OD2A participating agencies initiated key programming improvements this quarter. The development of educational resources and training on Academic Detailing was approved this quarter for CHA without formal, outside training. These types of trainings previously had been unavailable due to the onset of the COVID-19 pandemic and other barriers. CHA moved forward quickly to continue with the web development of their educational portal offerings on academic detailing, a peer review model, opioid analgesic risk mitigation resources, and a provider safe prescribing course.

CSU conducted four focus groups to develop a guided search page for lay people (rather than professionals). This was a new feature to their website that went along with the creation of educational messages for public use. Rather than going through 15 filter options (with more than 100 questions), the guided search page allows users to answer a few questions and provides information on steps they can take to access treatment.

The SVCMC SBIRT Team Lead had worked with the new behavioral health service line's Integrated Care Center staff to inform them of the range of needs often required by the population the SBIRT Team is screening and referring to their services. Thrive added peer support services to two new hospital locations, MetroHealth Broadway and MetroHealth Parma.

By implementing services at these two locations, Thrive peer recovery supporters could connect with clients at a different stage of recovery who might be more willing to engage with peer recovery supporters than ED patients. Thrive also was collaborating with SVCMC and Rosary Hall on a behavioral health program that would provide a continuum of care for clients seeking recovery services. The goal was to locate it at SVCMC to care for clients from their presentation in the ED, through detox and into treatment services.

Q2 – January 1, 2021, through March 31, 2021

CCBH provided CWRU with additional funding to support improvements in *Strategy 3* surveillance activities. CCBH also began using ODH Project DAWN data in the quarterly bulletins and on the CCBH overdose data dashboard because the ODH numbers were more generalizable than others previously reported.

The ADAMHSB Board OUD specialist was tasked originally with interviewing solely family and friends of decedents included in the CCMEO's overdose fatality review meetings. This quarter the pool of families/friends was expanded, increasing the numbers of family/friend interviews from 2 per month to 6-10 per month. Another improvement was that initial contact was made via letter and some families/friends have successfully initiated contact with the OUD Specialist based on those letters. The ADAMHSB Board also make program improvements by incorporating OUD training into its Community Crisis Intervention Team Training for county law enforcement agencies.

CSU increased to 38 the number of different agencies' staff trained this quarter and added a second educational video explaining the various SUD treatment types offered in the community and represented on the d*rughelp.care* website. Improvements to d*rughelp.care* included support for zip code searches and downloadable search result reports to Excel®. Additionally, Thrive bolstered its data collection processes and instituted permanently a new system for documenting when different steps of the referral process are completed for individual peers.

Q3 – April 1, 2021, through June 30, 2021

CCBH integrated National Forensic Laboratory Information System (NFLIS) data into their county analyses. Additionally, CCBH reconvened virtually its quarterly OD2A participating agency meeting that allowed sub-grantees to highlight their work and provided CCBH the opportunity to educate the diverse sub-grantees on key terminology around public health activities (e.g., "linkage to care") and the ongoing data needs of CCBH's surveillance efforts.

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> Had hoped to create workgroups regarding each recommendation category (7 categories) to help to facilitate discussion and implementation.... As [CCMEO] had meetings with ... separate workgroups, it became apparent that each workgroup was overlapping in discussions, ideas, and participants. [CCMEO] re-shuffled [the] workgroup plan and compiled all workgroups into a larger workgroup ... to help facilitate a productive, non-repetitive discussion.

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CHA launched the Opioid Management Toolkit, which aims to assist providers with improving their opioid prescribing practices (see https://opioidconsortium-education.org/od2a/index). CHA also strengthened its Toolkit marketing initiative by launching a LinkedIn® marketing campaign that has generated views from 30 healthcare organizations in Greater Cleveland. Additionally, CHA created short academic-detailing videos for their Opioid Management Toolkit. In collaboration with the MetroHealth Academic Detailing Lead, CHA also created an academic detailing course based on the Veteran's Health Administration, NaRCAD, and MetroHealth models. This course will be used to train academic detailers in other health systems.

Additionally, CSU registered three new agencies and added 25 new services to their *drughelp.care* website. MetroHealth's prescriber review team finalized a system to report their findings to individual providers. In collaboration with CCBH, Thrive began distributing to ED patients who have experienced an opioid overdose, referral cards providing contact information for Thrive and other related county service providers.

Woodrow started reaching out via text, email, phone and mail to participants five to seven days after they have interacted with a peer recovery supporter to collect participant data. According to Woodrow,

> We worked together to make the transition from one data collector and reporter to having two [peer recovery supporters] who could each perform one area of the work. Each peer [peer recovery supporter] is supported to complete their area of the work to [in turn] complete the data piece of our grant.

Q4 – July 1, 2021, through August 31, 2021
Improvement in the fourth quarter included CHA, CCBH and MetroHealth review of MetroHealth's OD2A new tools and programs and they began their replication at SVCMC. CHA/Metro received permission from CCBH to train healthcare organizations outside of OD2A funding in academic detailing, and CHA and CCBH met with Roger Hess, DDS, of CWRU School of Dental Medicine, the Ohio Dental Association, and the Greater Cleveland Dental Society regarding dental education opportunities locally and statewide.

Theme 4. Leveraging Resources

Q1and Q2 – September 1, 2020, through March 31, 2021
None of the OD2A participating agencies reported leveraging resources during these quarters.

Q3 – April 1, 2021, through June 30, 2021
CHA identified the existence of, acquired permission to use, and adapted into an online course the Northeast Ohio Medical University's All-Ohio Opioid Education curriculum. The existing curriculum was created originally through the collaborative efforts of seven Ohio medical schools, and well-suited to CHA's OD2A vision and needs. Via CHA's online platform, providers now may acquire continuing medical education (CME) credits at no cost for the duration of the OD2A initiative. Thrive also leveraged resources by instituting new community outreach and harm reduction campaigns with the support of OD2A and other funding.

Q4 – July 1, 2021, through August 31, 2021
None of the OD2A participating agencies reported leveraging resources during this quarter.

Theme 5. Identifying Challenges

Q1 – September 1, 2020, through December 31, 2020

1. Data collection: CCBH faced challenges gaining access to EMS and law enforcement data, because the data request was not for "research" but "surveillance" purposes. CCBH is working with The Begun Center evaluation team to explore ways to garner CWRU IRB approval and oversight to meet EMS and law enforcement data-use requirements. The ADAMHSB also encountered an obstacle in initiating the Next of Kin (NOK) interviews with family members and friends of individuals who have died from a drug overdose, because of miscommunication with the CCMEO over the timing of dissemination of cause of death rulings. The ADAMHSB wanted to ensure that cause of death rulings have been received by NOK prior to contacting them for an interview. The ADAMHSB Board also has met challenges finding NOK to interview because

up-to-date contact information was unavailable. Woodrow had trouble reaching participants for follow-up and increased the number of times they were contacting participants, as well as sending letters in the mail. Each Woodrow peer recovery supporter also is discussing the follow-up interviews at least 3 times when they are meeting with ED patients.

2. Technical difficulties: CSU began to see more serious and complicated technical problems in the administration of the *drughelp.care* website. There also have been technical issues among partners that have impacted their work, especially during COVID-19. For instance, one large treatment center had problems with their email system for more than a month, and CSU staff were unable to send them a daily reminder email to enter treatment availability updates on *drughelp.care*.

3. Ongoing implementation: ESC-NEO found that PAXIS training registration continued to be an ongoing challenge this quarter because teachers are overwhelmed with navigating new learning environments and unable to commit to attend training. A shortage of substitute teachers also contributed to the inability of teachers to attend trainings. PAXIS offered teachers the option of attending an online (Self-Paced) PAX GBG course instead of virtual trainings with a live trainer. The ESC-NEO further expanded their outreach to allow individuals from area schools to attend PAXIS trainings, instead of limiting registration to small teams from each school. Teachers did not need to be signed on at a certain time and could work through the different modules at their own pace. Generally, it takes about 6 hours to complete the online course, which is the same amount of time that it would take to attend a training in-person. Twenty-eight teachers registered to complete the online course.

Q2 – January 1, 2021, through March 31, 2021

1. Agency staffing: CCBH had difficulty hiring analysts to fill OD2A surveillance positions and SVCMC saw the team lead and the original care coordinator vacate their positions. Another care coordinator has since been hired, but the team lead position is yet to be filled. Thrive hired two peer recovery supporters but is still experiencing staffing pressures. It is exploring the option of hiring another peer recovery supporter to assist with the highest volume shifts.

2. Data reporting: CCBH also experienced challenges interpreting MetroHealth's Project DAWN naloxone-distribution data reported to ODH. To promote a clearer understanding of this information, CCBH held multiple meetings with staff from Project DAWN distributions sites, the local Healing Communities Study, and ODH. CCBH also encountered discrepancies between its vital statistics coding vs. CCMEO decedent coding. Now the agencies are working in tandem to solve the problem. Additionally, CCBH identified confusion in data discussions with CHS and is working closely with CHS to rectify the misunderstanding. Also, during the February 2020

OFR meeting, participants accidentally reviewed a case that had a positive fentanyl analog toxicology screen, but was eventually ruled an alcohol only overdose, without any prescription and/or illicit drug involvement. The medical examiner clarified for OFR meeting participants how certification of alcohol deaths occurs, and the differences between acute intoxication and chronic abuse that affects certification. This led to important discussions of the miscommunication between forensic sciences and public health, and the variability in the certification of death by coroners/medical examiners.

3. Transportation for individuals seeking treatment: Thrive reported gaps in accessing transportation for individuals encountered in EDs who wish to enter treatment. Thrive noted that individuals waited up to an hour for an Uber. Thrive is unsure if this gap has been created by the increasing number of individuals seeking treatment, the pressure of the pandemic on Uber services or both.

4. Subgrantee contract execution: CCBH also has experienced delays in executing contracts due to current agency-related work demands at CDP and CCMEO.

5. Ongoing implementation: The ADAMHSB found that law enforcement partners have limited opportunity to participate in OUD training because it is not mandated. CHA and MetroHealth experienced delays in developing content for the Provider Opioid Course that will be housed on the main page of CHA's Toolkit website but working on a fix.

Q3 – April 1, 2021, through June 30, 2021

1. Agency staffing: For example, CCBH—as the county health department—has been in emergency response mode since the beginning of the pandemic in March 2020 and with ongoing incidents of infection, contact tracing efforts, and vaccine rollout—to name a few pressures—delays have occurred in hiring OD2A staff and completing initiative-related projects.

2. Technical difficulties: An additional barrier for CCBH was recently erected by the transition of syndromic surveillance data, which includes ED visits associated with drug poisonings, from the established EpiCenter site to a new one, ESSENCE. Due to resulting unforeseen inadequacies of ESSENCE, the Ohio Department of Health is reverting to an updated EpiCenter site and data-access delays have occurred.

3. Engaging people with treatment: Thrive continues to experience barriers in finding placements for individuals in need of drug treatment, "especially late at night and on weekends." As described in Thrive's quarterly programmatic survey response,

> We have been meeting weekly with different treatment centers to ask questions and get education on what their requirements are for admission. Our staff have been working hard to find immediate solutions for admission for after-hours treatment, and when this has not been possible have been advocating for the patient to stay in the emergency room until a more suitable option is available. If the peer has been discharged from the emergency department, we will continue to support them and assist with recovery resources in the lobby.

Additionally, SVCMC's SBIRT team currently serves the inpatient medical unit and the outpatient primary care clinic and is looking to build on these successes, yet the team is "having some difficulty identifying new locations/practices to serve." To address this challenge the team is using "creative forms of engagement and assimilation in order to gain investment from other disciplines and use SBIRT as a conduit for holistic and integrated care."

4. Website competition: CSU also has identified some of the negative impacts of competing websites and is working to address them in collaborative talks with these website developers. The competing websites do not "collect detailed information directly from each agency and show the daily availability of slots for each service," but "the competition has not made registration [of participating agencies] easier."

5. Vehicle problems: CHS' mobile harm reduction van has been out-of-service, making it more difficult to reach many of those in need. CHS is working to get the van back in service soon.

Q4 – July 1, 2021, through August 31, 2021

1. Technical difficulties: CCBH continued to experience challenges associated with access to EpiCenter syndromic surveillance data (ED visits associated with drug poisonings), although the new EpiCenter data site is now up and running and spike alerts will occur once there are 60 days' worth of data in the system. Additionally, CCBH is encountering challenges in obtaining Medicaid data and 911 dispatch data.

2. Ongoing implementation: The ADAMHSB continues to experience barriers in completing next-of-kin interviews.

3. Budgetary concerns: All MetroHealth OD2A expansion efforts were put on hold pending CCBH/CDC unobligated funding negotiations.

4. Vehicle problems: CHS' mobile harm reduction van continued to be out-of-service. CHS is working to get the van back in service soon.

5. Institutional constraints: Due to changes in SVCMC leadership and philosophy, we have had difficulty expanding internally to deliver SBIRT at additional SVCMC departments/clinics.

6. COVID testing: Thrive has experienced delays of several hours in placing clients in treatment due to COVID testing requirements.

Theme 6. Exploring Innovative Ideas

Q1 – September 1, 2020, through December 31, 2020

The CCBH OD2A *Strategy 3* group recognized this quarter that *stimulant classifiers* and *triage notes* are now available in the EpiCenter system. CCBH analysts began analyzing these data and are planning to add in the future these data points in their routine EpiCenter analyses. CCBH also plans to link *triage* notes to *vitals* data to gain a better understanding of individuals' ED care and health trajectories.

CCBH also explored the creation of data briefs and visualizations within Tableau™ using analyzed Vital Statistics 2020 overdose deaths. The data briefs focus on specific topics surrounding drug overdoses in Cuyahoga County (e.g., COVID-19 impact, emerging drug types, other current trends, etc.) to inform county opioid-misuse prevention activities.

CHA's information technology department attempted to design peer review programming for other health systems. This was challenging given the complexity of designing documents and ways of developing peer review content that can be adopted seamlessly and will work effectively across different health systems. CHA is exploring the idea that doing so may involve surfacing high-volume providers via electronic medical record review. Other systems may not be able to follow the MetroHealth model precisely, because not all Opioid Consortium hospitals use Epic® software to house their electronic medical records. CHA will work internally initially to vet the feasibility of this idea and, if possible, involve one other Consortium hospital in a pilot test.

CSU planned to start distributing a newsletter as a part of quarterly outreach efforts to keep in touch with registered service providers. CSU also worked to build their social media presence for outreach purposes. Additionally, CSU learned that people with dual diagnoses are having the hardest time finding an appropriate service for substance misuse treatment. CSU discovered that the people first responders often encounter and respond to have both mental health and substance misuse problems so CSU started to think about adding more extensive mental health information to *drughelp.care*.

CCMEO reviewed a case where the decedent had a history of substance use disorder but died of suicide rather than an unintentional overdose. CCMEO explored ways to address substance use disorder and someone's access to lethal means and is working towards understanding this concept further to build a recommendation. CCMEO planned to address suicide at the OFR Quarterly Stakeholder Meeting and work towards identifying an effective intervention point. CCMEO also worked to have major hospital systems represented at the OFR. Although CCMEO received pushback from the legal side of hospitals, they are working with the legal teams to overcome this barrier. CCMEO also reviewed some cases in OFR meetings that revolve around decedents with criminal histories and contact with the justice system. CCMEO met with stakeholders in the criminal justice/courts systems to better understand how the system works, including county vs. state jail/prisons, re-entry options for incarcerated individuals etc. and is working in a smaller group to explore issues in this area that the OFR can help to address.

MetroHealth sought innovative ideas to fill-in gaps to further help clients and continue to provide required services, despite other local agency closures and service delays. MetroHealth hopes to create alternative strategies to assist in smooth transitional call-to-action activities to help address unforeseen catastrophic situations.

Q2 – January 1, 2021, through March 31, 2021

CCBH and many of its participating agencies continued to recognize administrative and/or activity areas in which they could innovatively expand their OD2A efforts beyond their original plans. For example, CCBH, CWRU and the ADAMHSB together have bolstered the Board's OUD trainings for law enforcement by also including Link2Care cards as part of the training. Additionally, the Link2Care cards are now produced in uniform breast-pocket size for easier portability by police officers.

CCBH also continued to discuss with a large men's shelter staff ways to better understand the harm reduction needs of shelter residents and to brainstorm potential areas of collaboration. Another innovation reported by the ADAMHSB is that the OUD specialist now schedules only one family/friend interview per day, so there are no time-limit pressures to end an interview. Additionally, CHA partnered with a professional communications agency to customize existing social media messages for area hospitals to increase OUD understanding, naloxone awareness, and decrease OUD-related stigma. CHS explored replacing its harm reduction services van with a larger, more adaptable RV. The OFR reviewed a case of a decedent with a history of ADHD. The CCMEO now seeks to further explore through literature review if there is evidence of overprescribing and/or addiction to ADHD medication. Also, given the increasing number of overdose decedents apparently dying alone, the CCMEO is exploring a future public education

campaign about “not using alone.” Finally, CSU reported that it will expand its *drughelp.care* website by adding a list of crisis hotlines.

Q3 – April 1, 2021, through June 30, 2021

Having connected with the Director of Community Medicine at NEOMED around the All-Ohio Opioid Education curriculum, CHA planned to collaborate in as many ways possible with NEOMED to ameliorate the effects of the opioid epidemic. Also, CHA’s OD2A Year 3 plan includes an opioid prescribing education needs assessment for all county hospital prescribers, as well as nontraditional prescribers (i.e., dentists, oral surgeons). CSU planned to reach out to universities and colleges in the county with the goal of participating in their substance misuse awareness programs. MetroHealth also is “creating a tool for monitoring stimulant prescribing habits,” that will be an addition to their opioid prescription monitoring tool.

Q4 – July 1, 2021, through August 31, 2021

CCBH and The Begun Center have been presenting data to prevention partners and explained they can provide other data to inform their work. As a result, CCBH has started receiving additional data requests from prevention partners such as Thrive and hopes to incorporate some prevention strategy data in surveillance, particularly around mobile harm reduction services. CCBH and The Begun Center also seeks to compare Millennium Health and county medical examiner toxicology data to learn if they mirror each other. Additionally, CCBH is looking to include more in-depth analysis of lab testing and submission data in the NFLIS section of the overdose data dashboard. CCBH also will expand the DOIEP to include a demographic profile of Cuyahoga County.

Furthermore, ADAMHSB has found that presenting videos of persons in recovery has been helpful in CIT officer trainings. CCMEO is working to hire an additional staff member to support ADAMHSB next-of-kin interviews and the OFR is working to fulfill the innovative intervention recommendations the OFR team previously developed. CHA found after meeting with Roger Hess, DDS, that a promising opioid-education audience are dental students. CSU is in talks with other websites (e.g., relink) to discuss ways to collaborate and reduce redundancies among competing websites. Additionally, CSU is exploring the addition of encouraging and supportive messages to the new Quick Search to encourage help seeking, as well as adding MAT and Sublocade injection agencies. Thrive has developed an in-house assessment line that clients can call that can then link clients with a provider for an assessment.

Focus Group Question 3. Have you learned any lessons from your activities this year? If so, what?

1. “Overdoses are up again this year,” explained a Thrive participant.

> I think it's the impact from all of 2020. A lot of it is just making sure that our peer supporters are well-equipped in their own recovery and they're ready to do this day-in and day-out, seeing folks come in and it's probably the worst day of their life. Making sure that they're practicing self-care has been really big. We've offered a lot of ... in-house trainings, whether it's mental health, first-aid, human trafficking, trauma-informed care, a lot of the CEUs that are required for recertification, making sure that we're offering those, as well as that everyone's staying up with their certifications that are needed. It's really just been making sure that our staff is best equipped to deal with whatever comes through that emergency department door.

2. The ADAMHSB learned not to schedule more than one next-of-kin interview per day so one interview does not have to be cut short to conduct another one.

3. CHS observed that clients appear more comfortable coming into a building as opposed to the van on the street. As one participant explained, “... Since they're not on the street, and they're coming inside ... a private area ... some people are saying it's more private, and they did feel comfortable coming in, because nobody really knows what they're coming for.”

Providing services in a private room also appeared to promote longer engagement and easier linkage to additional services such as MAT. Alternatively, the mobile van provided greater access to a greater number of clients (i.e., those without transport or lacking the desire to ride with others across town) and CHS staff emphasized that they hope to gain access again to the van soon.

4. “For me it’s just focusing on the substance use, especially prescription medications,” explained a SVCMC participant.

> A lot of our patients don't understand if we ask, ‘Do you use prescription medication for non-medical reasons?’ They think just because it's prescribed, they can use it whenever. I've been working with patients to break it down and explain to them how it can be abuse. ... [I]f it's prescribed, they just think, ‘Oh, it's fine, because it was prescribed by a doctor.’

5. “I think one of the other things that I maybe didn't really think about before we started,” shared an SVCMC participant, “but we are screening patients while they're at their doctor's appointment, usually the doctor who's prescribing those opiates.” The participant continued that a key question is,

> Do they admit to us or are they going to admit to us that they're abusing them, even if they know that they are? Not likely. So, I think trying to figure out if there's a way or if it's just not possible in that setting to really screen effectively for that. I will sometimes get people admitting that they use IV heroin, but very rarely, if at all, do people say like, ‘Oh, yeah, I'm abusing my Percocet’ ... because they're there to get them. So, they’re not going to tell me that.

6. One MetroHealth *Strategies 4 and* 7 participant observed, “I think that over the past year with the development of the case management role, we've been able to see better how some of those [provider] prescribing behaviors are affecting the patients and now we're learning how we can help those patients.”

Another MetroHealth *Strategies 4 and* 7 participant added

> As we were going through a lot of this [peer review], we noticed that there's a lot of stimulants, also.... We're starting to develop a stewardship-type thing for the stimulant prescribing. It's not quite as good and cut-and-dry, because we don't have as good CDC guidelines and things to follow, but there's definitely a need. I think we're going to have that together by the end of this year, I hope even sooner.

When evaluators pressed further to explain their concern with stimulants, one participant elaborated that there were “some physicians that actually had absolutely no opioids, but they really did have a lot of stimulants.” The participant also said, “I think there's just a need to make sure that these [providers]—just like with opioids—are educated on how they should be prescribing.”

7. “One of the biggest things I learned is meeting people where they are is one of the most important things, aside from being flexible, having that mobile unit there so people were able to come to it during a pandemic,” said a MetroHealth *Strategy 5* participant. They continued,

> I think it really saved a lot of lives, just by us going to them instead of making them come into a hospital that was a possible way to get COVID. Putting ourselves out there and making it easy for them to come. I think that helped a lot.

8. MetroHealth *Strategy 6* participants discussed lessons learned about defining "success" and "long-term engagement." For example, one participant highlighted that,

> The biggest data [question] would be [defining] "recidivism." If we're engaging these clients while they're here ... and I have struggled with this ... about how to really collect this because I'm kind of torn. To speak of recidivism with this population, is 30, 60, 90 days long enough to say, "He didn't recidivate?" Because with this population, especially with opiates—it's such a hard drug to come off of—is that good enough? Or do we say, "A year," if they're having come back within the prison system in a year? Is that "recidivism?" I'm still struggling with which parameter would give a better idea of how successful we truly are. Because for me, I truly believe most of ... the clients have never been offered drugs for any extensive period of time. If we can keep them off 30 days, I believe that's a success. And then they may relapse, which is part of recovery, and then we just start over and what the goal being is to get them to long-term treatment and recovery.

Another participant added,

> Most of the time at 90 days with my clients, regardless of what I try to do, I would say 70% of my clients go back to using and they disappear. I mean, that's just what happens. But then the next time they come back, we're there with the same disposition, the same attitude, the same welcoming spirit. So, this is a very hard population to keep up with.

9. A CCBH *Strategy 4* participant noted that regarding "dentists and veterinarians, it's been really hard to get into those two fields" to discuss opioid prescribing.

Theme 7. Dissemination and Data Sharing Strategies

Throughout the year many participating agencies continued to report the dissemination of knowledge gained and lessons learned during this reporting period via internal opioid-related updates to staff, collaborating agencies, and the U.S. Attorney's Office of the Northern District of Ohio Heroin and Opioid Task Force (HOTF) meetings, HOTF Data Subcommittee meetings, as well as to the public via social media.

Q1 – September 1, 2020, through December 31, 2020

CCBH data analysts presented on the DOIEP at a U.S. Attorney's Office of the Northern District of Ohio Heroin and Opioid Task Force Data Subcommittee meeting and a Cuyahoga County Opiate Task Force (CCOTF) meeting—providing fruitful opportunities for regional stakeholder discussion and feedback. With support of the Begun Center evaluation team, CCBH also

released to regional stakeholders a quarterly data bulletin, consisting of an infographic depicting standard data elements that will be adapted to shine light on emerging trends each quarter. CCBH analysts also responded to ongoing overdose-related data requests in a timely manner. For instance, CCBH provided EpiCenter data to support their overdose data dashboard and quarterly bulletins. The CCMEO released an overdose alert this quarter reflecting a spike in the number of overdose deaths and CCBH analyzed the number of ED visits for the same timeframe to see if EDs were experiencing a spike, as well.

CHA organized and hosted an informational webinar for local OD2A participating agencies with the Director of the Veteran's Administration National Office of Academic Detailing on Sept. 14, 2020. CHA also organized and hosted a webinar with MetroHealth's Office of Opioid Safety on Oct. 17, 2020. This webinar featured MetroHealth and other Ohio health systems (Ohio State University Wexner Medical Center, Ohio Health, and the University of Cincinnati Medical Center) reflecting on innovation in OUD treatment during COVID-19. The webinar was hosted on the BrightTALK platform and was attended by participants in more than 10 states. Additionally, CHA presented OD2A deliverables progress reports at the Cuyahoga County Opiate Taskforce meeting in Fall 2020.

On November 18, 2020, Thrive's Director of Hospital Systems met with Rosary Hall leadership and SVCMC leadership for the new integrated behavioral health program being implemented at SVCMC to prepare for collaboration next quarter. Thrive's Director of Hospital Systems also participated in monthly meetings with the MetroHealth behavioral health management team to discuss coordinating inpatient/outpatient referral services via Zoom.

Q2 – January 1, 2021, through March 31, 2021

CCMEO, CCBH, and Begun Center staff presented an *Overview of Overdose Fatality Reviews* to an Overdose Fatality Review quarterly stakeholder meeting. Additionally, CCBH and Begun Center staff presented *Synthetic Marijuana* at a Cuyahoga County Opiate Task Force Data Subcommittee meeting and the CHA Project Manager presented the *OD2A Toolkit* at the same meeting. CSU distributed to participating agencies their first *drughelp.care* newsletter. SVCMC reported that its success in furthering SBIRT program implementation throughout the hospital system is a result of its ongoing dissemination activities to sub-groups of medical specialties, such as Residents, Bariatrics, Orthopedics, and Behavioral Health.

Q3 – April 1, 2021, through June 30, 2021

CCBH produced their Drug Overdose Integrated Epidemiologic Profile (DOIEP) update, Quarter One 2021 Data Bulletin, and CCBH website updates (i.e., Cuyahoga County Overdose Data Dashboard updates, OFR information, *Parma Police Department (Ohio) Drug-Related Overdose*

Incidents Data Update January 1, 2017 – December 31, 2020). CCMEO, CCBH, and Begun Center staff again presented an *Overview of Overdose Fatality Reviews* to the Overdose Fatality Review quarterly stakeholder meeting. In addition, CSU also periodically distributed their *drughelp.care* newsletter to participating agencies. MetroHealth's posted an online interview with Dr. Joan Papp, Medical Director of the Office of Opioid Safety, describing the establishment of the office and its work distributing naloxone (see https://vimeo.com/558241985/408a6e3398).

Q4 – July 1, 2021, through August 31, 2021

CCBH continued to share *Strategy 3* updates, including nonfatal overdose numbers, with participating agencies and presented the recently released Q2 2021 Data Bulletin to key community stakeholders. CCBH submitted a GIS presentation abstract to the American Public Health Association for national conference agenda consideration.

Additionally, the CCMEO OFR team members educated a local treatment stakeholder about Naloxone, fentanyl testing strip access, and training for employees. CHS was featured on a Cleveland News 5 TV segment, as well as in a Kent State University informational video demonstrating the SSP program. CSU was the featured speaker in August at the U.S. Attorney's Office for the Norther District of Ohio Heroin and Opioid Task Force Data Subcommittee meeting. The MetroHealth program team works diligently with the Office of Opioid Safety's educational team to continuously promote and provide virtual trainings, informative presentations, and Q&A opportunities to enlighten our internal and external partners. Thrive employees participated in the OD2A peer to peer learning collaborative in Kansas City, MO, by presenting on implementing linkage to care programs. Finally, Woodrow shared their successes and lessons learned with the local community via four in-person meetings and three virtual ones.

Focus Group Question 4. How have your activities generated opioid-related information or "data?"

1. The ADAMHSB dug deeper into the interviews to provide not only the next-of-kin's perspectives on the decedent's situation, but also to surface prevention strategies or at least identify potential triggers that might have driven the decedent's overdose.

2. CHS explained that the zip code data they collect from clients has demonstrated that most of their clients are not from the inner city but from the wealthier suburbs.

3. CHS also highlighted that data collected on HIV test results reinforced the success of their SSP in limiting HIV transmission.

3. “The OFR,” said a CCMEO participant,” helps us to generate more detailed or in-depth information on what trends we are seeing in Cuyahoga County.”

4. A participant from CSU explained, “We have detailed information on each treatment service provided by registered agencies and I think our website has more detailed information than any other websites that we've seen.”

5. “We track everything on our hospital form,” said a Thrive participant.

> I think we have a lot more data than other folks do. I'm in a lot of other data groups in Cuyahoga County, and sometimes the things that I share they’re like, “Oh, my gosh, you can track that?” ... I think that we now have information on where clients are going after they're in the ED. Are they linking? What are the percentages of people who link to care? If they don't link to care, we're asking, “Why?” ...And I think that's really important, because you can't get to the *how*, and *the helping*, when you don't know *the why*, which are a lot of the questions that we ask. We ask our peer supporters to be very detailed. We want a story. We want to know what each one of these people is experiencing, so we can bring that back. A lot of them have similar experiences, but a lot of them are different, too. So, it's nice to see where everybody's coming from. And so we can get this huge view of like, “Oh, well, maybe we're missing this population over here.” This is what we need, like for our homeless population. We've learned a lot about them through asking these questions.

6. “So with the case management, ... I started a quality improvement project and have been working with a provider that was a very high prescribing provider,” noted a MetroHealth *Strategy 4 and 7* participant.

> She had over 150 clients in her practice that were greater than 30 MMEs and many over 90 [MMEs] and I assisted her in helping these patients move to our Pain and Healing Department and other places. And now a year later, I've been working on gathering all of that information about those clients that were moved and where they are now... if they're still on opioids, if they're still co-prescribed benzodiazepines and opioids. So, it's giving us a lot of data about a large group of patients that were once highly prescribed.

Focus Group Question 5. Have your activities improved access to and sharing of data across different agencies? If so, in what ways?

1. According to one participant, CCMEO shared OFR data with ADAMHSB and CCBH on the rise in persons experiencing a fatal overdose on their pandemic-related early release from jail.

2. CCBH is excited to access more of the data collected by The Begun Center. As one CCBH *Strategy 3* participant explained,

> we know that [Begun is] collecting data from partners to be able to evaluate their work. And I'm curious if there's a use, for example, for the referral data that comes in? Is there some way that that could apply or be linked to surveillance data? We [have been exploring] the COVID impact and overdose [data]... And then we started thinking, "Oh, the data that ... CSU ... has on all the treatment providers and which ones closed during the pandemic—we could look at that. It's connecting the dots between what's on hand and what is being collected maybe for different purpose that could be of value for some of the linkages and overlays for surveillance.

Focus Group Question 6. What policies or practices support your access to and sharing of data?

1. One CCMEO participant mentioned that there is greater and more timely sharing of data between CCMEO, CCBH and The Begun Center because of the platform provided by this CDC initiative.

2. According to a Thrive participant:

> We're being asked by MetroHealth right now to participate in a big data share. We are very cautious with that. We are extremely careful with anything we share. It needs to be completely deidentified. In this case ... they're wanting identified data. So, it's a long process of going back and forth and making sure everything checks out, getting contracts in place and business agreements, things like that. So just being really careful. But as far as deidentified data ... I think we do a really good job of sharing what we can like, anything deidentified that can assist in others trying to implement programming or linking people to care. We are very open to sharing that type of data.

3. A CCBH *Strategy 3* participant highlighted the data sharing and integration initiated by the creation of the Cuyahoga County Overdose Data Dashboard:

> There's tons of [data] now on the dashboard. And nearly none of that was readily available to the public and stakeholders prior to OD2A. So that was a big step forward and [we will] ... continue down that road now that we've cracked that nut.

Focus Group Question 7. What policies or practices limit your access to or sharing of data?

1. "What our goal for the OFR was," explained a CCMEO participant,

> was to have representation from all hospital systems. We have been working with them to get something in place where they can join our OFR meetings and share information. Right now MetroHealth and SVCMC are on our OFR, but we'd like to expand to include everybody.... We also tried to get the VA. They participate in our OFR, so that was a success. But they don't share data with us yet, because [of] federal laws and statutes."

2. "The hospitals are so protective," explained a CHA participant, "even with data about their physicians. They're not really willing to share that.... We've been asked a lot about hospital data, generally," continued the CHA participant, "and opioid-related hospital data. And we're actually in the process of trying to get the hospitals [Cleveland Clinic, MetroHealth, SVCMC, University Hospitals] to do a data agreement about some of that information ... that will eventually flow to CCBH. We have an extensive data list that we would like them to give us."

3. One Woodrow participant spoke of the difficulties encountered when trying to follow-up with the persons they engage with treatment: "We really established ... how difficult it is to do follow up data collection. Once somebody leaves our site it's hard to get a hold of them."

4. SVCMC participants discussed the lack of OD2A data they have access to. "Those of us doing the screens, we don't get any of it," explained one person. They continued, "But that's not the main part of our job. We are working with the patients. It certainly would be interesting, but either way, we're gonna get the data for you." When the evaluators asked in what form they would like the data analysis (i.e., generalized infographic, detailed written report), one participant said, "Generalized feedback ... quarterly may be helpful just so we can understand the data we collected, where it went, and what it looks like at that point."

5. One CCBH *Strategy 3* participant noted that,

> When we try to get other data sources from other entities, we try to work with what's publicly available, but always with [caveats]. For example, with [Ohio] EMS data, it's always a certain percentage [of the total data] that's reported to

> [Ohio] EMS. It's not the full 100%. You always have to note, “The dataset only includes entities reporting to the state.” So, it's certain things like that that we have to be careful about when using publicly accessible data.

Focus Group Question 8. Have you successfully changed any policies or practices that were limiting your access to or sharing of data? If so, please explain.

1. A Woodrow participant explained how they now are overcoming obstacles to collecting follow-up data from persons they have linked with treatment.

> It's definitely increased ... I think last month we got a hold of seven people.... It's getting better. [The new data collector] is doing a spectacular job of really being consistent [with follow-up], calling at different times of the day, calling on different days, sending ... text messages, sending emails, and sending letters in the mail.

Focus Group Question 9. Do you use the Cuyahoga County Overdose Data Dashboard (on the CCBH website) or seek out other surveillance data sources?

1. “Yes,” answered a CHA participant. “We use it mainly for ... data that's up-to-date for whatever activities are going on with OD2A, because we report that back to the [hospital] consortium members in quarterly meetings.”

2. “We would like a link to the toolkit to be on [the dashboard] ... and MetroHealth’s [website], too,” expressed the CHA participant.

3. A Thrive participant said, “I think our outreach team looks at that to help guide their outreach in Cuyahoga County.”

Focus Group Question 10. How can your activities and the data you collect contribute to a bird’s-eye-view, real-time understanding of the county’s opioid epidemic?

1. An ADAMHSB participant explained how next-of-kin interviews can provide insight into decedent’s lived experiences prior to an opioid overdose that can highlight in all their complexity possible triggers and ways to prevent such deaths so that more realistic approaches can be developed to limit the complicated, lethal effects of opioid addiction.

2. CHS participants emphasized that their data collection has contributed to a greater understanding of the breadth of the opioid epidemic. One participant explained,

> The truth is there on the paper. Once we discover that, we can't discriminate, no, we're out there to reach everybody and help everyone. So, when they bought in REDCap [for digital data collection], for me, because I'm from the beginning, I thought that was the best thing that ever happened to us. I really did. And it shows on paper, and it shows how we spend this money and how bad it's needed.

3. A CHA participant explained,

> I think most of what ours is focused on is safer prescribing and provider education around safer prescribing. I think MetroHealth has ... a lock on that.... They're the only ones with an Office of Opioid Safety. They're very focused on it, I think we can help. When that what Metro is doing is eventually expanded, I think we can help other hospitals achieve that same kind of ... understanding for their physicians and other clinicians, as well. And, frontline staff, which I think get discounted a little bit as the people who don't give direct care but are often the gateway for someone seeking help. And if that person is distant or judgmental or does not have the best attitude towards someone with OUD that's seeking help, they'll walk out and never come back.

4. "All of our detailed information is readily, publicly available, I mean, that's our purpose" said a CSU participant.

5. "I think since we're working hands-on with these clients," explained a Thrive participant, "we're getting all of that information from the literal person. They continued,

> I think when we take that information and then analyze it and take it back to these groups that we're a part of in the in the community, it's just really shows ... the impact that this epidemic is having on our community is huge.

6. MetroHealth *Strategy 6* participants believe it will take more time to contribute to this birds-eye view, but their expanded network and focus on rapport-building have fostered the development of a safety net for those who choose to be engaged and remain engaged—or importantly come back and re-engage—and this longer-term engagement will eventually provide service providers with a broader picture of the county's opioid epidemic.

> Because of the population of people that we interact with, if they want to disappear—they do. When COVID spiked, they let a lot of people out of the jail because it was overcrowded. One of the good things was that people were familiar with us already. A lot of our clients are repeat. As far as recidivism is concerned within our group of people, it is very high. They're in and out of jail. For a lot of

> people, we had spoken to them [and assessed them] before they got out [and they were given two external team members' contact information] ... so if they get out sooner or if they get disconnected from us in some way, they know how to contact us as the external team. And we can help them navigate a lot of the post-release issues, like medication or treatment ... Now a lot of the people that they released they are rounding back up. A lot of these people had charges that were outstanding. A lot of the people that we thought we had lost contact with are now back.... I have some clients that live under the bridge, and I know they live up under the bridge. And I know sometimes where they go. A lot of our clients use our needle exchange, if they're not engaged, they still use the needle exchange ... So, a lot of the people on the [MetroHealth needle exchange mobile unit] that work in our office know all these people, as well, and so we can get in touch with them that way, as well.

7. "I think the DOIEP is a very comprehensive document ... all in one place in a report format," highlighted a CCBH *Strategy 3* participant. "We have the [Cuyahoga County Overdose Data] Dashboard that puts it all in a visual format," they continued.

> Our bulletin puts it in right-in-your-face quick [presentation] format. I think we're on the right track. I think we want to incorporate some more smaller reports and data briefs, something that's more readily digestible to the public other than that big report. But we still want to do that large report because I think it gives you a lot of data in one perspective in one place. I think we're on the right track.

Other Points of Discussion

During the focus groups and interviews, participants also were given the opportunity to discuss additional thoughts or points of interest that were not yet explored in the discussion.

Focus Group Question 11. What other information would you like to share with us?

1. "I think within the community, but also within the hospital... [SBIRT] raise[s] people's awareness of the degree to which folks coming in for medical appointments had co-occurring substance use or mental disorders," offered a SVCMC participant. They went on to say,

> We're screening for mental disorders, too, so I think that that was a little bit of a surprise for some people. I think, you know, part of how it can be used is to raise people's awareness of the complexity of patients and the complexity of their issues, and that you may only be seeing their issue from one [perspective] seeing one issue and neglecting other issues. I think that's one piece, I think, you know, obviously, it just gives you for our little areas just prevalence trends or in terms of what people seem to be using over time. And to what degree are they willing to

> go to treatment in general? How accessible is the treatment? No, we're not exactly collecting that. But that's kind of like the next piece.

2. A participant from the MetroHealth *Strategy 4 and 7* team responded to a question about general acceptance among providers of peer-review feedback observed, “The majority ... they’re happy to see it.” They continued,

> There are a handful that didn't agree with the numbers or wanted us to give them the details of the report and they take a look at it and nobody's really mad about it, but they might have additional questions. But overall, they appreciate receiving them.

3. Responding to discussion about the potential longevity of the opioid epidemic in Cuyahoga County, one MetroHealth *Strategy 5* participant explained,

> I think until other issues and areas are addressed as well—the social determinants of health, trauma, socioeconomic differences, access to healthcare, there's so many other areas that in addition to addiction need to be addressed—that addiction is going to keep going on until the foundation of what... really drives addiction is addressed. Healthcare systems and communities ... need to focus on not only prevention, and linkage to care, but the root cause of addiction and why this is happening in the first place and really addressing the disparities that we find in certain areas around us.... Until those items are addressed, and programs are strong and robust and implemented and incorporated within the communities that are suffering, it's just like kind of kicking the can down the street.... It’s heroin or fentanyl right now, but maybe in 2030 it’s the new drug that can be manufactured in someone's home.... There’re so many areas that need to be addressed, aside from just providing someone MAT and linkage to care or harm reduction.

4. “There's one thing I'd like to share, which I think is extremely positive,” said a MetroHealth *Strategy 5* participant.

> Because of the success of a couple of our programs, but in particular the Project DAWN [mobile unit], other counties throughout Ohio are reaching out to us and are interested in incorporating and building and doing what we're doing in their counties, because they've identified it and understand that this has been really beneficial.... That's a positive. The other counties are recognizing the good work and the need for a program like this. I think we have three counties that have reached out to us regarding having some kind of mobile outreach unit in their county.

5. One CCBH *Strategy 4* participant asserted that "I think a greater awareness needs to be within the medical community of the role that they play in substance abuse disorder overall."

6. CCBH *Strategy 3* participants agreed that the agency partnerships developed via OD2A are promoting a broader culture change around data sharing. As one participant expressed, "I feel like agencies [(e.g., ADAMHSB and Thrive)] are starting to reach out a little bit now that they ... are starting to understand the data we have, the analyses we are capable of doing, the potential support we could provide to their work."

Conclusion

Despite difficulties posed by the COVID-19 pandemic, the Cuyahoga County OD2A Initiative made progress toward meeting its objectives within each strategy. The surveillance team continues to identify and gain access to databases that provide insight into patterns and trends affecting the opioid epidemic, especially with respect to incident locations for fatal and nonfatal overdoses. Partner agencies are increasing training, education and resource materials for medical providers on best practices for opioid prescribing and alternative pain management. Most importantly those partner agencies providing service programs are connecting individuals with suspected opioid use or substance use disorder to treatment. These programs reach clients at different touch points: their residence following a suspected nonfatal overdose, in the emergency department, while visiting a Syringe Service Program, during incarceration in the county jail, or while visiting a hospital for a medical procedure. Additionally, the Initiative has increased training and education on the administration of naloxone and distribution of Project DAWN kits to residents and services providers in Cuyahoga County. Although evaluation efforts have just started in Year Two to interview individuals with opioid or substance use disorders, initial findings suggest more attention needs to be directed at understanding why individuals do not feel the need for treatment or do not want to engage in treatment when offered. Being connected with a peer recovery supporter is not the same as being in treatment for an opioid or substance use disorder. While much work has been accomplished, there is still more to do.

IX. Appendices

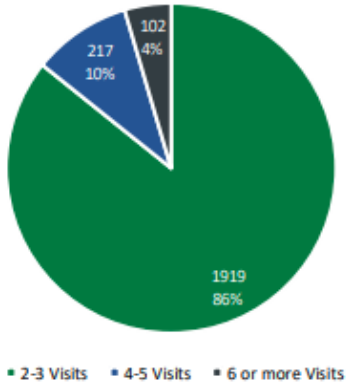
1. Acronyms and abbreviations
2. Example of data brief from Cuyahoga County Board of Health (CCBH)
3. MetroHealth provider report cards
4. Screenshots of Northeast Ohio Hospital Opioid Consortium Opioid Management Toolkit (Center for Health Affairs – CHS)
5. Overdose Fatality Review (OFR) Next of Kin interview scripts
6. Circle Health Services (CHS) Sample of Marketing Materials/Media Campaign
7. Link2Care Card

Appendix 1: Example of Data Brief from CCBH (Strategy Three)

Recurring Emergency Department Visits for Suspected Drug Overdoses and Drug Poisoning Deaths: Linking EpiCenter and Vital Statistics data for Cuyahoga County, OH 2016-2019

Drug overdoses contribute significantly to morbidity and mortality in Cuyahoga County. Research shows that people who have one overdose are more likely to have another.[1] This data brief reports on an innovative, proof of concept data linkage analysis of EpiCenter (EC) emergency department (ED) visit data and Vital Statistics (VS) death certificate data for Cuyahoga County, Ohio. These analyses were conducted as part of the Cuyahoga County Board of Health's (CCBH) Overdose Data to Action Surveillance strategy; specifically to gain a more complete picture of the burden of drug overdose in our community and inform prevention strategies. CCBH analysts conducted probabilistic matching to link records of individuals visiting the ED multiple times due to suspected overdoses from 2016 to 2019 with records of individuals who died of an overdose due to drug poisoning during this period.

Figure 1: Total Number of Individuals with Repeat Visits to the ED Due to Suspected Drug Overdose, 2016-2019 (n = 2,238)



The mean and median age of individuals with repeat visits were similar among the 2-3 and 4-5 visits groups. However, the 6 or more visits group had an older mean and median age than the other visit groups.

For the total number of repeat visits for suspected drug overdose, 55.2% of the visits mentioned opioid/heroin as the reason.

After the records of individuals with repeat visits to the ED for suspected drug overdose were categorized as described, VS data were collected and subset to include only individuals who died from drug poisoning (n=2,123).

Using probabilistic matching methodology, (see Methodology section on page 6 for details), records of individuals with repeat visits to the ED were linked with VS data records of individuals who died from drug poisoning.

EC data showed that there were 2,238 individuals that went to the ED multiple times for a suspected drug overdose between July 1, 2016—December 31, 2019.[2] These individuals were categorized into three visit groups (see Figure 1):

- 2-3 visits (n=1919),
- 4-5 visits (n=217) and
- 6 or more times (n=102).

Table 1 presents demographic information of individuals who visited the ED multiple times (before dataset linkage). The 35-49 age group had the highest number of repeat visits compared to other age groups. Men were more likely to have repeat visits than women. Whites were more likely to have repeat visits than Blacks or Other Races.

Table 1: Demographics of Individuals with Repeat Visits to the ED Due to Suspected Drug Overdose, 2016-2019

	2-3 Visits		4-5 Visits		6+ Visits	
Age Group	N	%	N	%	N	%
Under 25	229	11.9	18	8.3	4	3.9
25-34	573	29.9	63	29.0	29	28.4
35-49	626	32.6	95	43.8	41	40.2
50 and Over	491	25.6	41	18.9	28	27.5
Sex						
Female	671	35.0	65	29.9	24	23.5
Male	1248	65.0	152	70.1	78	76.5
Race/Ethnicity						
Black	413	21.5	44	20.3	28	27.5
White	1158	60.3	148	68.2	67	65.7
Other/Unknown	348	18.2	25	11.5	7	6.8
Mean Age						
	39.6		39.9		41.8	
Median Age						
	37		38		39.5	
Total						
	1919		217		102	

[1]Centers for Disease Control and Prevention (CDC). (2020). Nonfatal Drug Overdoses. https://www.cdc.gov/drugoverdose/nonfatal/index.html

[2]The timeframe of July 1, 2016—December 31, 2019 will be referred to as 2016-2019 throughout the data brief.

1

Of the 2,238 individuals with repeat visit records, 168 (7.5%) linked to VS (indicating that they had died from drug poisoning). Those 168 overdose (OD) mortalities visited the ED 486 times between 2016-2019. Figure 2 presents the final number of linked records: 2-3 visits (n=130), 4-5 visits (n=25) and 6 or more visits (n=13).

The average number of days between visits were calculated for each visit group. For the 2-3, 4-5 and 6 or more visits groups, there were 229 days, 122 days and 117 days between each visit, on average, respectively.

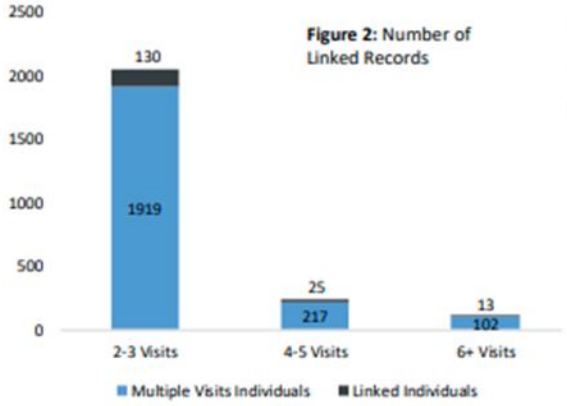


Figure 2: Number of Linked Records

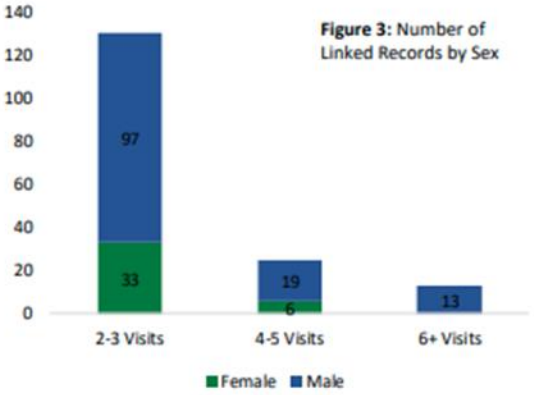


Figure 3: Number of Linked Records by Sex

The demographic breakdown of the three visit groups are shown in Figures 3-5. Males had a greater number of matched records than females in all visit groups. The 50 and over age group had the highest number of matched records (58 individuals who died from drug poisoning) followed by the 35-49 age group (53 individuals who died from drug poisoning). Non-Hispanic Whites had the highest number of matched records (131 individuals who died from drug poisoning) in all three visit categories followed by non-Hispanic Blacks (33 individuals who died from drug poisoning).

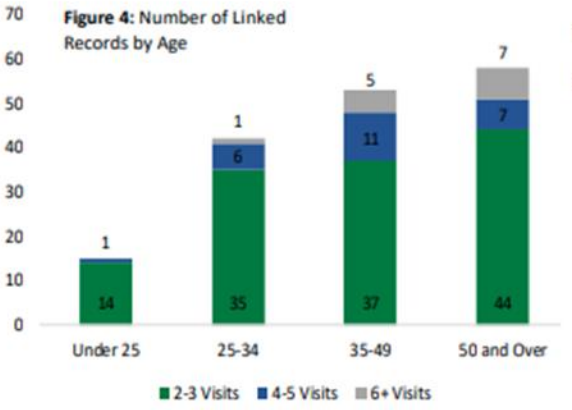


Figure 4: Number of Linked Records by Age

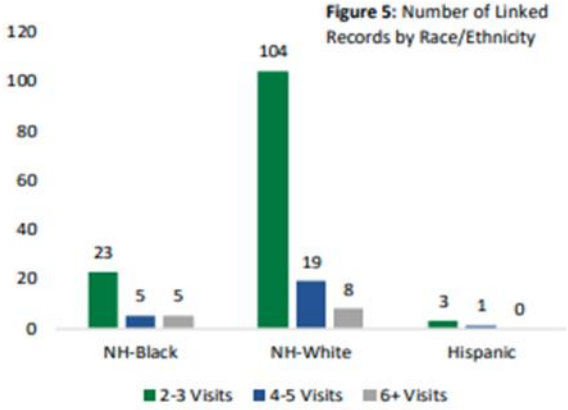


Figure 5: Number of Linked Records by Race/Ethnicity

The demographic characteristics of persons with repeat ED visits who died from drug poisoning are presented in Table 2 (n=168). The 50 and over age group had the highest number of OD mortalities in the 2-3 and 6 or more visits groups. The 35-49 group had the highest number of OD mortalities among the 4-5 visits group.

Males, non-Hispanic Whites, those with a high school diploma/GED and never married had the highest number of OD mortalities.

The mean and median ages of each visit group are also presented in Table 2. The average age of an OD mortality was 42.1 for 2-3 visits group, 42.2 for 4-5 visits group and 49 for the 6 or more visits group.

Figures 6-7 display further demographic breakdowns of linked individuals who died from drug poisoning by age group. The 50 and over group had the highest number of OD mortalities among both males and females.

Figure 6: Demographics of OD Mortalities by Age, Sex and Race/Ethnicity (n=164)*

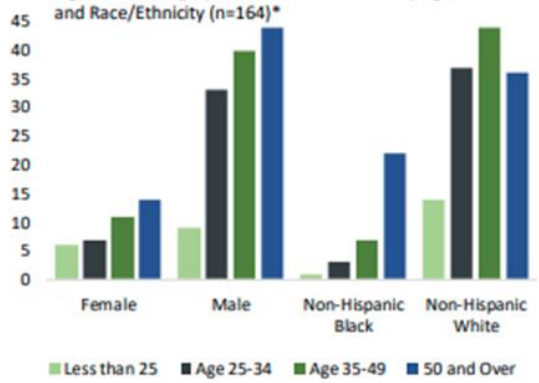


Figure 7: Demographics of OD Mortalities by Age, Educational Attainment and Marital Status (n=164)*

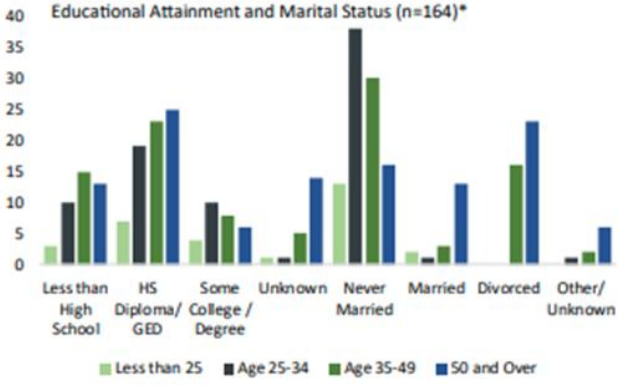


Table 2: Demographics of OD Mortalities by Number of ED Visits, 2016-2019

	2-3 Visits		4-5 Visits		6+ Visits	
Age Group	N	%	N	%	N	%
Under 25	14	10.8	1	4.0	-	-
25-34	35	26.9	6	24.0	1	7.7
35-49	37	28.5	11	44.0	5	38.5
50 and Over	44	33.8	7	28.0	7	53.8
Sex						
Female	33	25.4	6	24.0	-	-
Male	97	74.6	19	76.0	13	100
Race/Ethnicity						
Non-Hispanic Black	23	17.7	5	20.0	5	38.5
Non-Hispanic White	104	80.0	19	76.0	8	61.5
Hispanic	3	2.3	1	4.0	-	-
Education						
Less than High School	33	25.4	8	32.0	3	23.1
HS Diploma/ GED	58	44.6	11	44.0	5	38.5
Some College / Degree	24	18.5	3	12.0	2	15.4
Unknown	15	11.5	3	12.0	3	23.1
Marital Status						
Never Married	78	60.0	13	52.0	10	76.9
Married	15	11.5	2	8.0	2	15.4
Divorced	30	23.1	8	32.0	1	7.7
Other	7	5.4	2	8.0	-	-
Mean Age						
	42.1		42.2		49	
Median Age						
	40		46		50	
Total						
	130		25		13	

Non-Hispanic Whites had the highest number of OD mortalities among the 35-49 age group compared to the 50 and over group for non-Hispanic Blacks (Figure 6).

The 35-49 age group had the highest number of linked OD mortalities among those with less than a high school education; the 50 and over group had the highest number among those with a high school diploma/GED; the 25-34 group had the highest number among individuals with some college/college degree (Figure 7).

The 25-34 age group had the highest number of OD mortalities among never married individuals; those 50 and over represent the highest number of OD mortalities among both married and divorced individuals (Figure 7).

*Other Race/Ethnicity groups are not shown due to very small numbers.

Figure 8: Drug Types Involved in OD Mortalities by Visit Type**

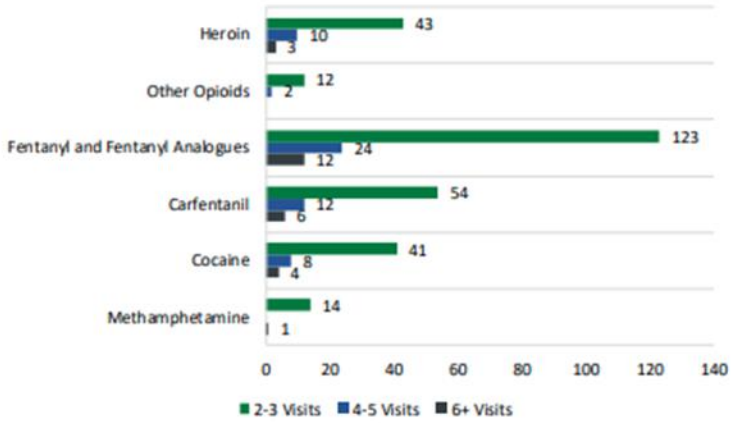


Figure 8 presents the different drug types that were involved in the death of OD mortalities. Fentanyl and fentanyl analogues were involved in 94.6% of deaths and were the most frequently indicated contributor of death regardless of number of preceding ED visits for suspected drug overdose.

Other than fentanyl and fentanyl analogues, including carfentanil, heroin was the next highest contributor of deaths for the 2-3 and 4-5 visits groups. Cocaine was the next highest contributor of deaths for the 6 or more visits group.

Opioid/heroin were mentioned in reason for visit for a large percent of ED visits among linked records: 2-3 visits—70%, 4-5 visits—64% and 6+ visits—85%.

Figure 9: Drug Types Involved in OD Mortalities by Race/Ethnicity**

Drug Type Non-Hispanic White	N	%	Drug Type Non-Hispanic Black	N	%
Heroin	35	26.7	**Heroin**	6	18.2
Other Opioids	11	8.4	**Other Opioids**	1	3.0
Fentanyl and Fentanyl Analogues	99	75.6	**Fentanyl and Fentanyl Analogues**	21	63.6
Carfentanil	42	32.1	**Carfentanil**	11	33.3
Cocaine	29	14.5	**Cocaine**	11	33.3
Methamphetamine	13	9.9	**Methamphetamine**	1	3.0

Figure 9 displays the drug type involved in the OD mortalities by race/ethnicity. Similarly to number of ED visits, fentanyl and fentanyl analogues and carfentanil were prevalent in both race/ethnicity groups analyzed and were frequent contributors of death. Heroin and cocaine were the next drug types involved most often in OD mortalities for non-Hispanic Whites and non-Hispanic Blacks.

Heroin was involved in 26.7% of linked OD mortalities in non-Hispanic Whites compared to 18.2% in non-Hispanic Blacks. Cocaine was involved in 14.5% of linked OD mortalities in non-Hispanic Whites compared to 33.3% in non-Hispanic Blacks. Methamphetamine was more prevalent among linked OD mortalities in non-Hispanic Whites (9.9%) than non-Hispanic Blacks (3.0%).

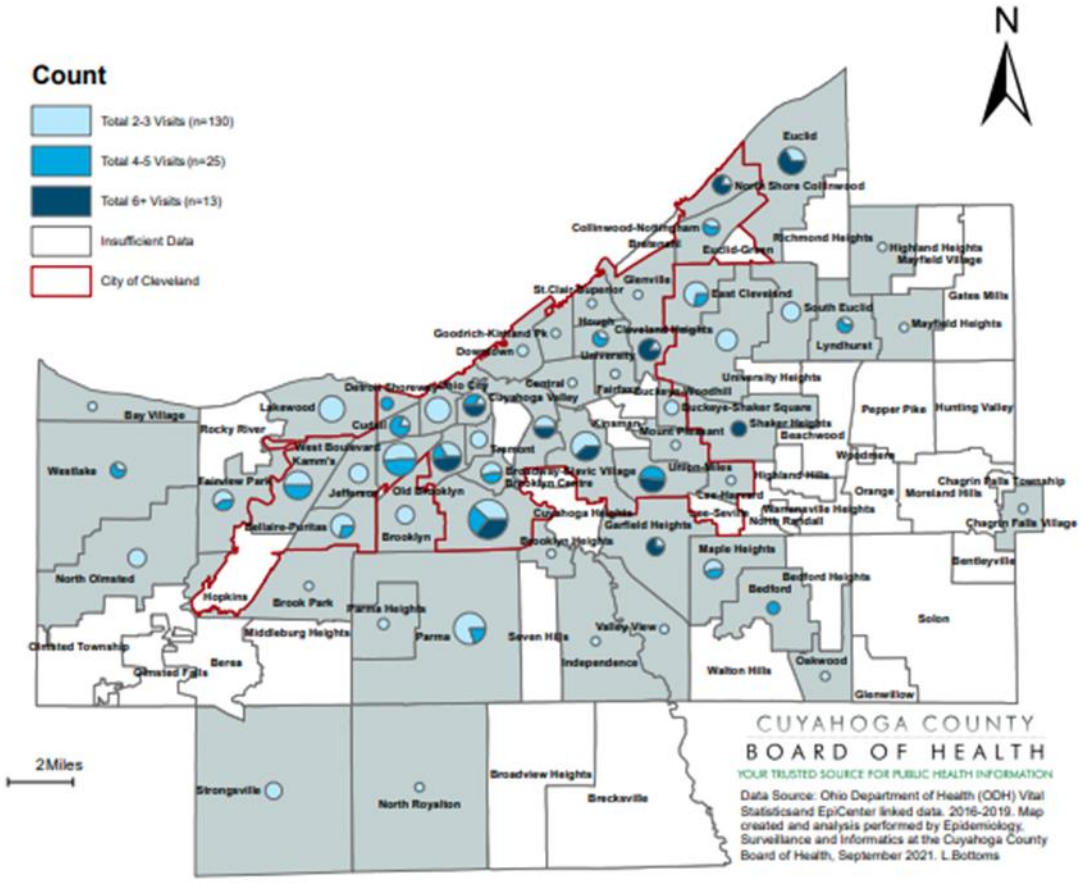
**Combination of drugs are usually involved in drug overdose deaths and individual deaths may be reported in more than one category.

Figure 10 displays the VS and EC linked records by residence at time of death for the three different repeat ED visit groups. Individuals in the 2-3 visits group, 4-5 visits group and 6 or more visits group visited the ED 285, 107 and 94 times, respectively. Each pie represents the proportion of categorized number of ED visits in each neighborhood. For example, a neighborhood that had all three groups in terms of number of visits linked to VS would show three different colors.

The top five neighborhoods where the 2-3 visits group was linked to VS, in terms of total individuals, were: Parma, Lakewood, Detroit-Shoreway, Old Brooklyn and West Boulevard. The top five neighborhoods where the 4-5 visits group was linked to VS were: West Boulevard, Kamm's, Old Brooklyn, Cudell and Union-Miles. The top five neighborhoods where the 6 or more visits group was linked to VS were: Old Brooklyn, Euclid, Stockyards, University and Union-Miles.

The red outline represents the City of Cleveland. Cleveland represented 60.9% of the total number of repeat ED visits records linked to VS.

Figure 10: Linked Records by Neighborhood, 2016-2019



This data brief provided a proof-of-concept analysis of two linked data sources at the record level. Individuals who visited the ED multiple times due to suspected drug overdose according to EC data were categorized into three visit groups and linked to VS death certificate data; specifically deaths due to drug poisoning. This data brief also examined the demographics of those linked individuals and the prevalent drug types involved in their deaths.

Two distinct profiles of those that died from drug poisoning after repeat ED visits for overdose were identified in this data brief: Non-Hispanic White, 35-49, high school diploma/GED and never married; and non-Hispanic Black, 50 and over, high school diploma/GED and never married. These trends are similar to what was observed in the Cuyahoga County Drug Overdose Integrated Epidemiologic Profile (DOIEP)[1].

In the future, we hope to explore different linkages and other ways to expand the population of interest. Some next steps:

- Add 2020 data to the sample.
- Add historical stimulant data to see if groups of interest change based on the stimulant type.
- Examine the differences between those that were able to be linked vs those that were not able to be linked.
- Determine if there is a possibility to look across hospital systems.
- Attempt to overlay this group with other treatment or law enforcement data to develop a comprehensive profile of individuals who had repeat visits to the ED for drug overdose and ended up passing away from a drug overdose.

This data brief offers a first-look at linked overdose data sources at record level. We hope the findings of this data brief drive further discussion about populations at high risk for drug overdoses in Cuyahoga County and support prevention efforts.

Methodology

Ohio Department of Health Vital Statistics (VS) and EpiCenter (EC) data were used for this analysis (more information about these data sources can be found in the DOIEP)[1]. Both datasets were cleaned to ensure variable names matched and only variables of interest were included. The EC dataset was subset to include only individuals who visited the ED more than once for a suspected drug overdose and was sorted by visit date. The VS dataset was subset to include only those with "Drug Poisoning" as a cause of death (n=2,123).

EC data were then un-duplicated keeping the most recent ED visit date and obtaining the actual number of individuals that went to the ED on multiple occasions (n=2,238). Next, EC data were categorized into three groups: 2-3 visits (n=1,919), 4-5 visits (n=217) and 6 or more (n=102) visits.

Structured Query Language (SQL) procedure was used in SAS to sort and link VS and EC datasets by date of birth, race and sex. Each record linkage produced a score with 17 being the highest score; indicating all values matched. Each variable of interest was assigned a weight with DOB being the highest weighted variable. 7.5% of EC multiple visit records were matched to VS records. All matched records with a score of 17 were re-viewed and linked to the visit group dataset.

The final dataset used for analyses consisted of 168 individuals who visited the ED 486 times. The final dataset with visit types were: 2-3 visits—130 individuals visited the ED 285 times; 4-5 visits—25 individuals visited the ED 107 times; 6 or more visits—13 individuals visited the ED 94 times.

Limitations

This is a proof of concept analysis. EC data are de-identified to some degree with no first or last names providing chance for error. Additionally, classifiers do not capture all overdoses and non-standard reporting across hospital systems can make the data hard to interpret. Smaller, specific datasets were used to reduce the percentage of error. For example, instead of all deaths, we focused on deaths due to drug poisoning. Lastly, the sample sizes for visit types were too small to complete any tests assessing statistical significance.

Suggested Citation: L.Bottoms. Cuyahoga County Board of Health (2021). Recurring Emergency Department Visits for Suspected Drug Overdoses and Drug Poisoning Deaths: Linking EpiCenter and Vital Statistics data for Cuyahoga County, 2016-2019. https://www.ccbh.net/overdose-data-dashboard/

Acknowledgement

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CUYAHOGA COUNTY
BOARD OF HEALTH
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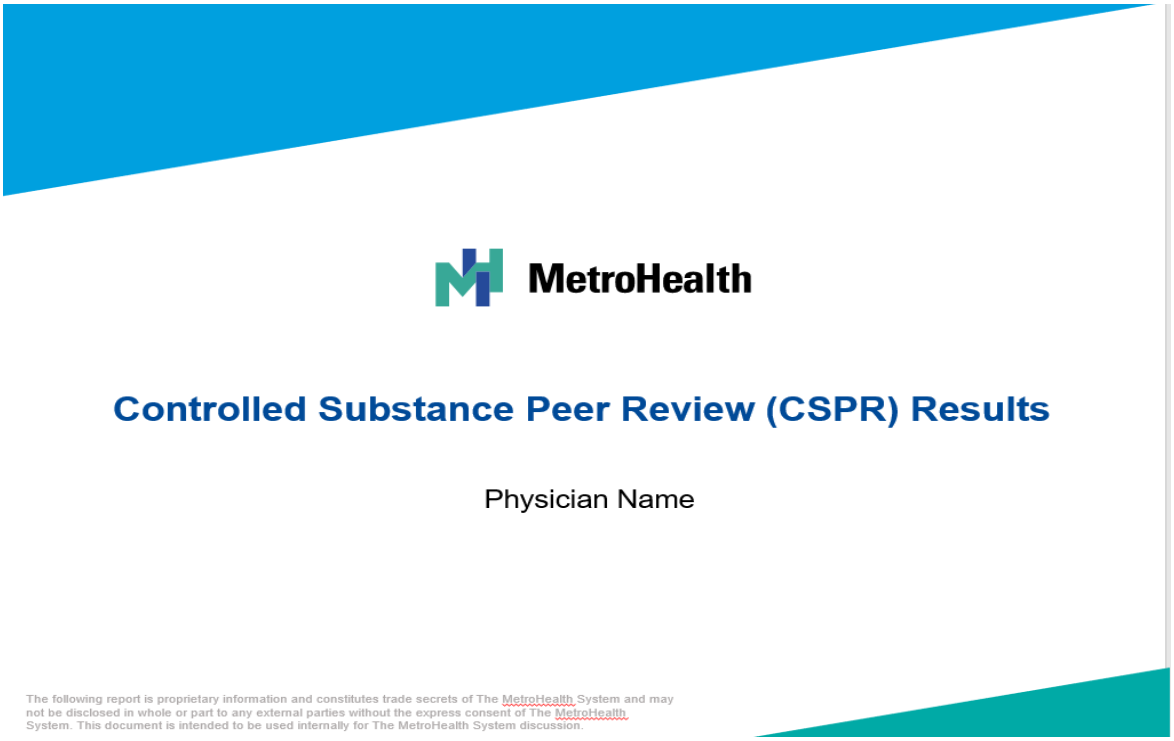
[1]Cuyahoga County Board of Health. (2021). The 2020 Drug Overdose Integrated Epidemiologic Profile (DOIEP). Cuyahoga County, Ohio. https://www.ccbh.net/overdose-data-dashboard/

Appendix 2: MetroHealth Provider Report Cards (Strategy Four)

This is a snapshot of the stewardship report card used by Metrohealth's Office of Opioid Safety. The template also includes tips for documenting OARRS checks in Epic®.



Department Name

Total Providers
of prescribed 0 opioids or controlled prescriptions
of prescribed less than 5 controlled prescriptions
of prescribed acute opioids no chronic opioid prescriptions
of prescribed other types of controlled meds, no opioids
of prescribed chronic opioids and were reviewed
(Per CDC - Chronic or long term is defined as daily use longer than 90 days)
(Other controlled meds are stimulants, or bupenorphine products)
Total Charts reviewed

MH Provider

	Total Charts Reviewed	Provider Percentage	Department Percentage	CDC Recommendation
Opioid risk tool utilized				CDC recommendation #8
OARRS review per guidelines				CDC recommendation #9
Pain management panel				CDC recommendation #10
Controlled substance agreement				CDC Recommendation #4
MME < 30				CDC recommendation #5
MME ≥ 80				CDC recommendation #5
Benzodiazepine with opioid rx				CDC recommendation #11
Current Naloxone Rx				CDC recommendation #8
Follow up every 3 months				CDC recommendation #7
Mental Health dx with Chronic Opioid Use				CDC recommendation #8

Link to CDC recommendations - https://www.cdc.gov/mmwr/volumes/65/rr/rr6501e1.htm?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fmmwr%2Fvolumes%2F65%2Frr%2Frr6501e1er.htm

Links to Ohio Law for Opioid prescribing – https://mha.ohio.gov/Researchers-and-Media/Combating-the-Opioid-Crisis/Opioid-Prescribing-Guidelines

https://med.ohio.gov/Overview-Regulations-for-Chronic-and-Subacute-Opioid-Prescriptions

https://ohiopmp.gov

CSPR DATA DEFINITIONS

Opioid Risk Tool (ORT) –The ORT is a validated screening tool designed to assess the risk for opioid misuse in adult patients prescribed opioids for chronic pain.* CDC recommendation # 3 encourages providers to assess the risks and benefits of chronic opioid therapy (COT) prior to prescribing and periodically during therapy. Credit was given if the Epic ORT calculator or other opioid risk assessment tool was completed and documented.

OARRS Review –The Ohio automated Rx reporting system (OARRS) database must be queried and summarized in the medical record for all new opioid and benzodiazepine prescriptions and for subsequent prescriptions at least every 90 days as advised by CDC recommendation #9 and required by state law.

Pain Management Panel/Toxicology screen – A pain management panel or other urine toxicology screen is obtained with all new opioid prescriptions, annually and if aberrant behavior occurs to assess for the presence of prescribed medications and other non- prescribed controlled or illicit substances. CDC recommendation #10 advises urine drug testing to improve patient safety. This is required by state law.

Controlled Substance Agreement – A pain treatment agreement outlining the responsibilities of the patient and provider which must be completed annually while a patient is on COT. This is required by state law and the MetroHealth controlled substance prescribing policy. CDC recommendation # 3 encourages providers to assess the risks and benefits of COT prior to prescribing and periodically during therapy.

Benzodiazepine prescribed with Opioid – Any co-occurring active opioid and benzodiazepine prescriptions identified in the medical record. CDC guideline #11 advises against concurrent use of opioids and benzodiazepines due to increased risk of overdose.

Naloxone RX –Opioid prescriptions with an MME >50 or a concurrent benzodiazepine should have a current prescription for naloxone. This is required by state law and the MetroHealth controlled substance prescribing policy. CDC recommendation # 8 naloxone to mitigate the risk of opioid related harms.

Three Month Follow up -Patients on COT complete an in person or telehealth visit at least every three months. CDC recommendation #7 encourages clinicians to evaluate the benefits and harms of chronic opioid treatment at least every three months.

Mental Health diagnosis – Patients diagnosed with a mental health disorder are at greater risk for misuse. * Therefore, it is recommended to use alternative therapies and avoid prescribing opioid medications when patients have mental health diagnosis.

Webster LR, Webster RM. Predicting aberrant behaviors in opioid-treated patients: preliminary validation of the Opioid Risk Tool. Pain Med. 2005 Nov-Dec;6(6):432-42

MetroHealth

This is an example of MetroHealth's Narcotic Report Card for an unidentified provider. It only includes samples of the type of data that may appear within these report cards.

MetroHealth

Narcotic Report Card
Provider A

January 1, 2019 – March 31, 2021

Why am I receiving this?

The Office of Opioid Safety reviews provider prescribing patterns using data collected from the Ohio Prescription Drug Monitoring Portal (OARRS). This includes data for attendings, residents, and advanced practice providers. The prescribing provider is then compared to other prescribing providers in their specialty. This data includes any institution the provider is associated with during the time period. Averages are based on that specialty group only. A report is retrieved from OARRS for each provider in a specialty group. The time period reviewed for this analysis is 2019 through 2021 Q1. Each provider report is compiled into one report for provider comparison.

The narcotic prescribing report cards are **informational only**. Our goal is to provide data that can help you understand your prescribing patterns relative to your peers in the context of the CDC Guidelines for Prescribing Opioids for Chronic Pain.

MetroHealth

1

CDC Guidelines

CDC's *Guideline for Prescribing Opioids for Chronic Pain* is intended to improve communication between providers and patients about the risks and benefits of opioid therapy for chronic pain, improve the safety and effectiveness of pain treatment, and reduce the risks associated with long-term opioid therapy, including opioid use disorder and overdose. The Guideline is not intended for patients who are in active cancer treatment, palliative care, or end-of-life care.

1) Nonpharmacologic therapy and nonopioid pharmacologic therapy are preferred for chronic pain. Clinicians should consider opioid therapy only if expected benefits for both pain and function are anticipated to outweigh risks to the patient. If opioids are used, they should be combined with nonpharmacologic therapy and nonopioid pharmacologic therapy, as appropriate.
2) Before starting opioid therapy for chronic pain, clinicians should establish treatment goals with all patients, including realistic goals for pain and function, and should consider how opioid therapy will be discontinued if benefits do not outweigh risks. Clinicians should continue opioid therapy only if there is clinically meaningful improvement in pain and function that outweighs risks to patient safety.
3) Before starting and periodically during opioid therapy, clinicians should discuss with patients known risks and realistic benefits of opioid therapy and patient and clinician responsibilities for managing therapy
4) When starting opioid therapy for chronic pain, clinicians should prescribe immediate-release opioids instead of extended-release/long-acting (ER/LA) opioids.
5) When opioids are started, clinicians should prescribe the lowest effective dosage. Clinicians should use caution when prescribing opioids at any dosage, should carefully reassess evidence of individual benefits and risks when considering increasing dosage to ≥50 morphine milligram equivalents (MME)/day, and should avoid increasing dosage to ≥90 MME/day or carefully justify a decision to titratedosage to ≥90 MME/day.
6) Long-term opioid use often begins with treatment of acute pain. When opioids are used for acute pain, clinicians should prescribe the lowest effective dose of immediate-release opioids and should prescribe no greater quantity than needed for the expected duration of pain severe enough to require opioids. Three days or less will often be sufficient; more than seven days will rarely be needed.

2

CDC Guidelines

7) Clinicians should evaluate benefits and harms with patients within 1 to 4 weeks of starting opioid therapy for chronic pain or of dose escalation. Clinicians should evaluate benefits and harms of continued therapy with patients every 3 months or more frequently. If benefits do not outweigh harms of continued opioid therapy, clinicians should optimize other therapies and work with patients to taperopioids to lower dosages or to taper and discontinue opioids. Before starting opioid therapy for chronic pain, clinicians should establish treatment goals with all patients, including realistic goals for pain and function, and should consider how opioid therapy will be discontinued if benefits do not outweigh risks. Clinicians should continue opioid therapy only if there is clinically meaningful improvement in pain and function that outweighs risks to patient safety.

8) Before starting and periodically during continuation of opioid therapy, clinicians should evaluate risk factors for opioid-related harms. Clinicians should incorporate into the management plan strategies to mitigate risk, including considering offering naloxone when factors that increase risk for opioid overdose, such as history of overdose, history of substance use disorder, higher opioid dosages (≥50MME/day), or concurrent benzodiazepine use, are present.

9) Clinicians should review the patient's history of controlled substance prescriptions using state prescription drug monitoringprogram (PDMP) data to determine whether the patient is receiving opioid dosages or dangerous combinations that put him or her at high risk for overdose. Clinicians should review PDMP data when starting opioid therapy for chronic pain and periodically during opioid therapy for chronic pain, ranging from every prescription to every 3 months.

10) When prescribing opioids for chronic pain, clinicians should use urine drug testing before starting opioid therapy and consider urine drug testing at least annually to assess for prescribed medications as well as other controlled prescription drugs and illicit drugs.

11) Clinicians should avoid prescribing opioid pain medication and benzodiazepines concurrently whenever possible.

12) Clinicians should offer or arrange evidence-based treatment (usually medication assisted treatment with buprenorphine or methadone in combination with behavioral therapies) for patients with opioid use disorder.

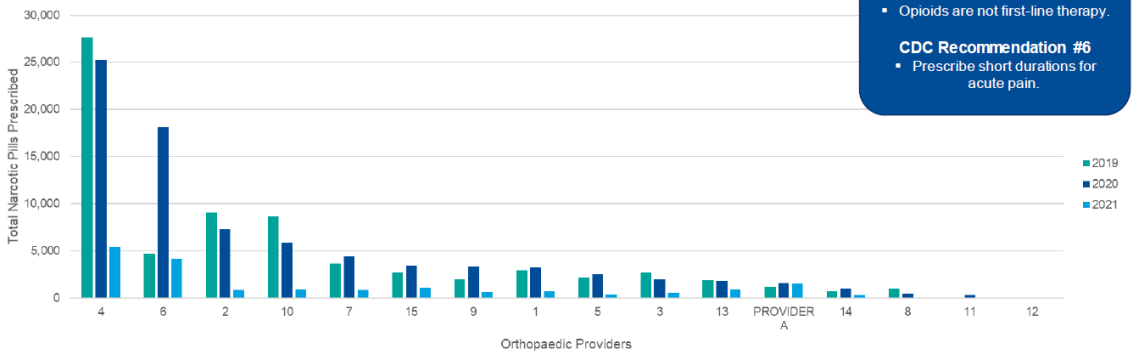
3

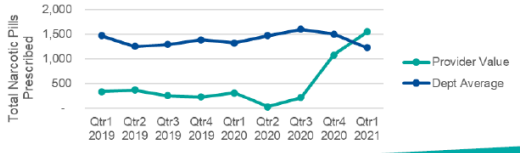
Graph 1- Total narcotic pills prescribed and filled as reported by OARRS for 2019 – Q1 2021.

OARRS Data

CDC Recommendation #1
- Opioids are not first-line therapy.

CDC Recommendation #6
- Prescribe short durations for acute pain.



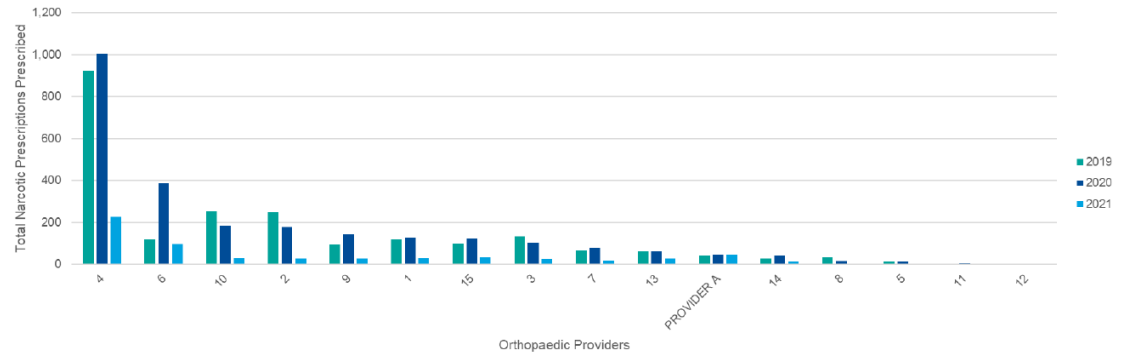


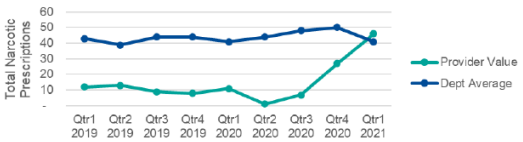
	2019	2020	2021 Q1
Provider A	1,176	1,624	1,543
Average	4,684	5,292	1,142
	75% Lower	69% Lower	35% Higher

*See slide 11 for drug category key

4

Graph 2- Total narcotic prescriptions prescribed and filled as reported by OARRS for 2019 – Q1 2021. OARRS Data

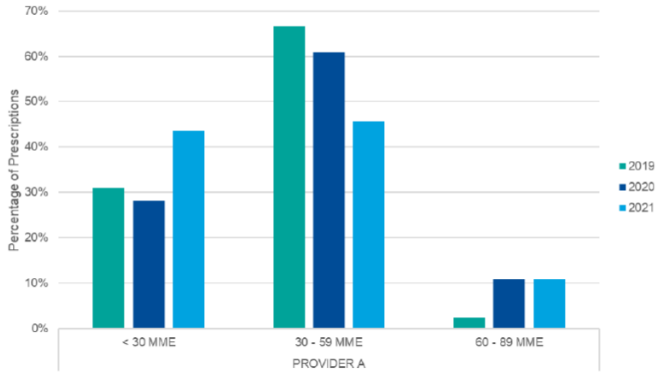




	2019	2020	2021 Q1
Provider A	42	46	46
Average	147	165	38
	71% Lower	**72% Lower**	**21% Higher**

*See slide 11 for drug category key

Graph 4- MME Percentage of narcotic prescriptions for 2019 – Q1 2021. OARRS Data



The CDC Recommendation #5

- The lowest effective dose should be prescribed.
- Extra caution should be taken with > 50 MME per day.
- If patients do not experience improvement in pain and function, discuss alternatives and work to taper and discontinue.
- ≥ 90 MME dosage should be considered for a pain consult.

*See slide 11 for drug category key

Appendix 3: Screenshots of Northeast Ohio Hospital Opioid Consortium Opioid Management Toolkit - CHA (Strategy Four)

Appendix 4: OFR Next-of-Kin Interview Scripts (Strategy Five)

Both the interview script and interview questions were developed and tested in Year One and completed early in Year Two, the latest revisions were completed in September, 2020 by the OUD Specialist at the ADMHSB.

Thank you for agreeing to this interview. We are meeting today as part of the Cuyahoga County Medical Examiner's office full circle follow up after the case has been reviewed more thoroughly.

My name is Michaele Smith and I am the Opioid Use Disorder Specialist at the Alcohol, Drug Addiction, Mental Health Services Board of Cuyahoga County. Are you familiar with our agency? Please feel free to use my first name and let me know how you would you like me to refer to you.

My purpose today is to get a better understanding of the history of your loved one/family member. This information will be collected for the purpose of finding common risk factors and develop ways to hopefully prevent future deaths of this nature. Your time and effort are very valuable, and I greatly appreciate your participation. I know this will be difficult so if you need to stop or a break at any time, please let me know. I will be taking notes during our discussion, but this is not being recorded

Do you have any questions so far?

The process will begin with a series of questions regarding your family member. Some of the questions you may have answered before – I'm sorry about that. Some of the questions may seem unpleasant, so if there is anything you are not comfortable answering, that is ok. I am also here to listen, so if there if anything you want me to know about (name) or think is important, feel free to share that information.

As a thank you for your time, I will send you a grocery store or gas gift card. We can discuss in more detail that after we finish the interview.

Do you have any questions before we begin?

Name **Date** **Time** **ME#**

---

1. Can you tell me about how the drug history started – what was their path?
2. Do you know what they were using? (Ever OD before?)
3. Does anyone else in their family have issues with substance use?
4. If so, is that person an Overdose risk? (Provide free Naloxone info)
5. IOP Treatment/Detox history? Length of stay?
6. History of MAT? Subx/Nalrex/Methadone
7. Did they have health insurance? What type?
8. Age and type of first drug use?
9. Do you know how long they used?
10. History of any physical, Mental trauma?
    If yes, did they receive any treatment? Type?
11. Where did they grow up? How many siblings? What was childhood like?
12. Education History?
13. What kind of work did they do? Were they employed when they died?
14. History of medical problems, surgery? (medications)
15. History of mental health problems? (medications)
16. Any children? (ages)
    If yes, do they have any issues with substance abuse?
17. Were they in a relationship at TOD?
18. Any history of homelessness?
19. Any history of jail/incarceration? Open Court Cases
20. Were they ever tested for COVID-19 or exhibit symptoms?
21. What local resources were you or your loved one aware of?
    a. Faith Based community?
    b. Signs, Posters?
    c. Peer support?
    d. Hospitals?
22. How do you view the police?

Extra Narrative Information[9]

[9]NOK interview adapted from *NYC RxStat 360 Interview Guide Questions.* NYC Department of Health. Shared with Cuyahoga County OD2A, September 2019.

Appendix 5: Sample of CHS Marketing Materials/Media Campaign (Strategy Six)

Spring and Summer Media Campaign

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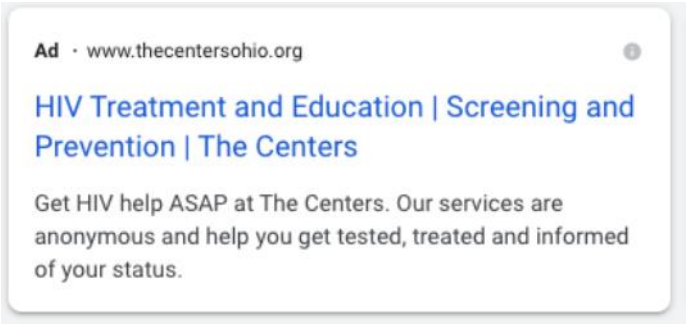
</td>
<td>Phase 1 (Spring) – Search Engine Ad
 
</td>
</tr>
<tr>
<td colspan="2">Phase 1 (Spring) – Billboard
 
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</table>

Phase 2 (Summer) – Transit Card 	Phase 2 (Summer) – Billboard 
Phase 2 (Summer) – Transit Card 	Phase 2 (Summer) – Billboard 

Brochure – Good Needle Insertion

If you miss your shot:

Soak the spot in warm water or put a heating pad on it for a while. Heat helps the circulation, so the shot won't get totally wasted. And good circulation will help prevent an abscess.

Also, don't put oils or creams on the spot until the wound has started to close. Wait a couple hours Putting creams on to soon can cause infections and scarring (even if the cream is supposed to *prevent* scarring)!

REALITY CHECK!

Talk is CHEAP!

- Everyone's body is different.
- You can't always find a vein when you want one.
- Women's veins can be harder to hit
- *Sometimes* it's more important to get off fast
- Sometimes you're in a hurry because you're someplace risky

But if you managed to get the drugs and the needle, then you know how to think on your feet. Get your technique down! Don't chew up your veins!

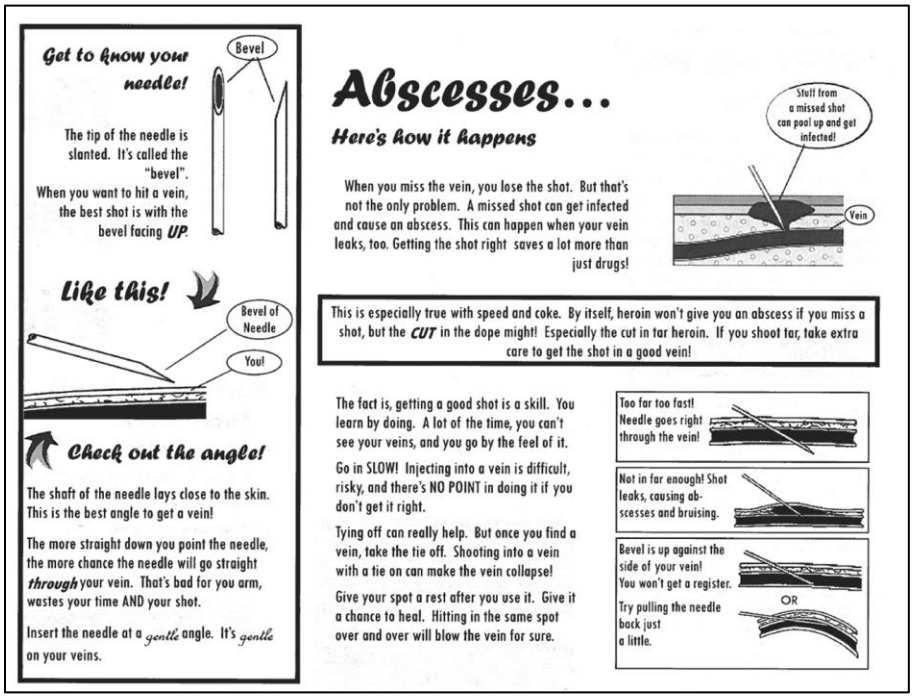
The Right Hit

This flyer is brought to you by your friends at
HARM REDUCTION COALITION
NY: 212/213-6376
CA: 510-444-6969
www.harmreduction.org

EVERYONE is entitled to take care of themselves, whether they use drugs or not. Learning to take care of yourself takes time and thought. Talk to your friends, find out what they know

Good Needle Insertion:

- **Saves Your Veins**
- **Saves Your Shot**
- **Prevents trackmarks and bruises AND**
- **Prevents abscesses!**



Get to know your needle!

The tip of the needle is slanted. It's called the "bevel". When you want to hit a vein, the best shot is with the bevel facing ***UP***.

Like this!

Check out the angle!

The shaft of the needle lays close to the skin. This is the best angle to get a vein!

The more straight down you point the needle, the more chance the needle will go straight ***through*** your vein. That's bad for you arm, wastes your time AND your shot.

Insert the needle at a *gentle* angle. It's *gentle* on your veins.

Abscesses...

Here's how it happens

When you miss the vein, you lose the shot. But that's not the only problem. A missed shot can get infected and cause an abscess. This can happen when your vein leaks, too. Getting the shot right saves a lot more than just drugs!

This is especially true with speed and coke. By itself, heroin won't give you an abscess if you miss a shot, but the ***CUT*** in the dope might! Especially the cut in tar heroin. If you shoot tar, take extra care to get the shot in a good vein!

The fact is, getting a good shot is a skill. You learn by doing. A lot of the time, you can't see your veins, and you go by the feel of it.

Go in SLOW! Injecting into a vein is difficult, risky, and there's NO POINT in doing it if you don't get it right.

Tying off can really help. But once you find a vein, take the tie off. Shooting into a vein with a tie on can make the vein collapse!

Give your spot a rest after you use it. Give it a chance to heal. Hitting in the same spot over and over will blow the vein for sure.

Too far too fast! Needle goes right through the vein!

Not in far enough! Shot leaks, causing abscesses and bruising.

Bevel is up against the side of your vein! You won't get a register.

Try pulling the needle back just a little.

OR

Appendix 6: Link2Care Card (Strategy Eight)