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BUNCOMBE BRIDGE TO CARE (BB2C): POST-OVERDOSE BUPRENORPHINE FIELD INITIATION PROGRAM TOOLKIT



BUNCOMBE COUNTY EMERGENCY SERVICES COMMUNITY PARAMEDICINE AND
MOUNTAIN AREA HEALTH EDUCATION CENTER

INTRODUCTION

The Buncombe Bridge to Care (BB2C): Post-Overdose Buprenorphine Field Initiation Program Toolkit describes the implementation of the “Buncombe Bridge to Care” project, a collaborative post-overdose buprenorphine field initiation and linkage to care project funded by [Dogwood Health Trust](#) and led by Mountain Area Health Education Center (MAHEC) and Buncombe County Emergency Medical Services (EMS) Post Overdose Response Community Paramedicine Team. This project took place in Buncombe County, North Carolina. Planning began in late 2021 and initial clinical services began March 2022.

The intention of this project was to provide rapid, low barrier initiation of buprenorphine for individuals who experience non-fatal opioid overdose—a population at high risk for fatal overdose—with subsequent linkage via peer support to ongoing outpatient buprenorphine treatment in a harm reduction framework. We believe this model can be adapted for a variety of counties and municipalities, even those with limited resources. The intention of this toolkit is simply to describe our process as an example of how we overcame local barriers and leveraged existing resources to meet the needs of patients who fall through the gaps of the existing opioid use disorder treatment infrastructure.

This toolkit describes the project and protocols utilized. It is not intended to be a comprehensive guide or manual, but instead to inspire communities to increase access to lifesaving medication for the marginalized community of people who use drugs.

“Thanks for everything. We are doing good. I thank God that I got into this program. It definitely saved my life.”

-BB2C Patient

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ABOUT US

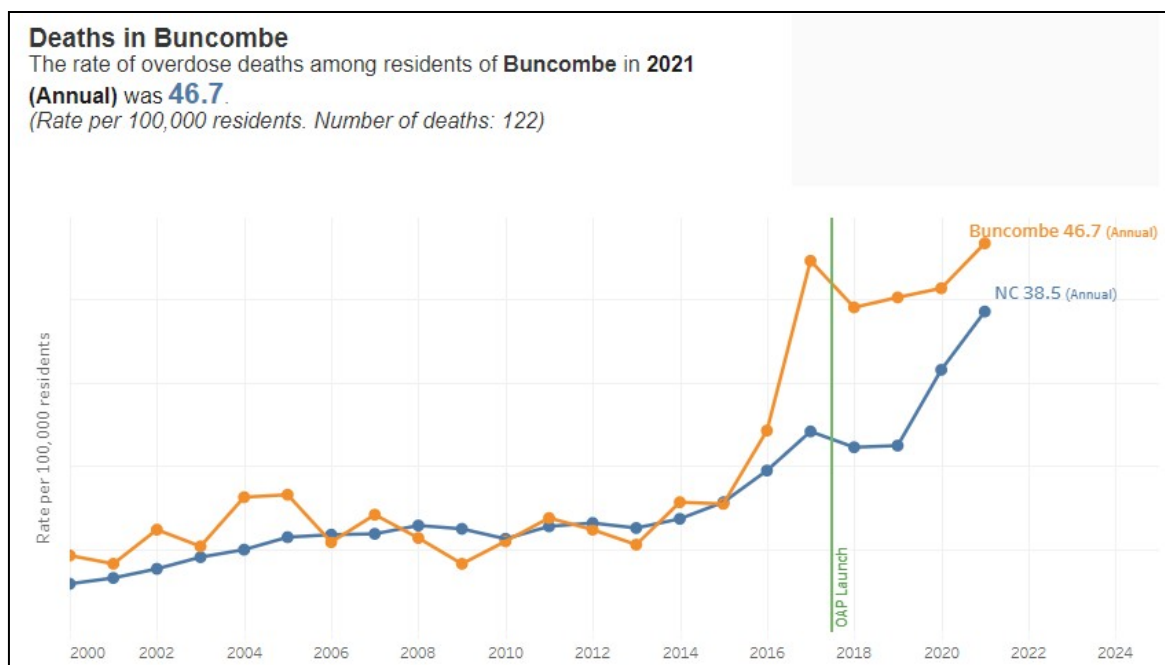
[MAHEC](#) is a teaching health center and federally qualified health center look-a-like (FQCH LAL) with a 40 plus year history of innovation in opioid use disorder (OUD) education and clinical care focused on serving Western North Carolina (WNC) residents. MAHEC offers buprenorphine (both injectable and sublingual) and naltrexone (oral and injectable) maintenance therapy via multiple clinical departments. In Family Medicine and Internal Medicine clinics, MAHEC offers primary care-based addiction medication treatment, with opportunities for peer support, integrated behavioral health, telehealth services, HIV and Hepatitis C testing and treatment, and reproductive health. In Psychiatry clinics, standalone addiction treatment is available, as well as management of complex co-occurring psychiatric illness via Assertive Community Treatment, Intensive Outpatient Programs, and Collaborative Care Management. In the Obstetrics/Gynecology clinic, Project CARA, the perinatal substance use treatment program, offers a multidisciplinary approach to care built on harm reduction, continuity of care pre- and postpartum, and innovations like contingency management and doula support. While all clinical sites are in Buncombe County, MAHEC serves patients from the 18 western most counties.

The Buncombe County Post Overdose Response Team (PORT) program began through a confluence of state and local grants in 2020 under Buncombe County Health and Human Services (HHS), which operates a syringe service program among other social and harm reduction services for individuals with substance and opioid use disorder. Buncombe County PORT transitioned under Buncombe County EMS in 2020. In 2021, EMS established a new Community Paramedicine (CP) program and hired a peer support specialist to supplement current EMS services and provide targeted assistance to patients experiencing substance use crisis in conjunction with PORT. The CP team responds specifically to dispatch calls in which overdose or substance use crisis is known or suspected. The team provides direct care, transportation, trauma assistance, and rapid linkage to food and shelter emergency assistance, detox, and other higher levels of care, and/or referrals to outpatient treatment. The goal of the CP program is to provide rapid access to resources for community members in need, while

reducing costs and strain on the criminal justice and law enforcement systems. Since 2021, the team has grown to include homeless outreach, wound management, and collaboration with Buncombe County Detention Center and Mission Hospital for bridging services for patients who are at increased/higher risk for overdose.

DESCRIPTION OF NEED

Opioid misuse, addiction, and overdose are chronic and severe threats to national public health. Opioid overdose death rates are at the highest levels ever recorded.¹ According to the CDC, there were “100,306 drug overdose deaths in the United States during the 12-month period ending in April 2021, an increase of 28.5% from the 78,056 deaths during the same period the year before.”² On Mar 21, 2022, NCDHHS announced that an average of nine North Carolinians died each day from a drug overdose in 2020, a 40% increase from the



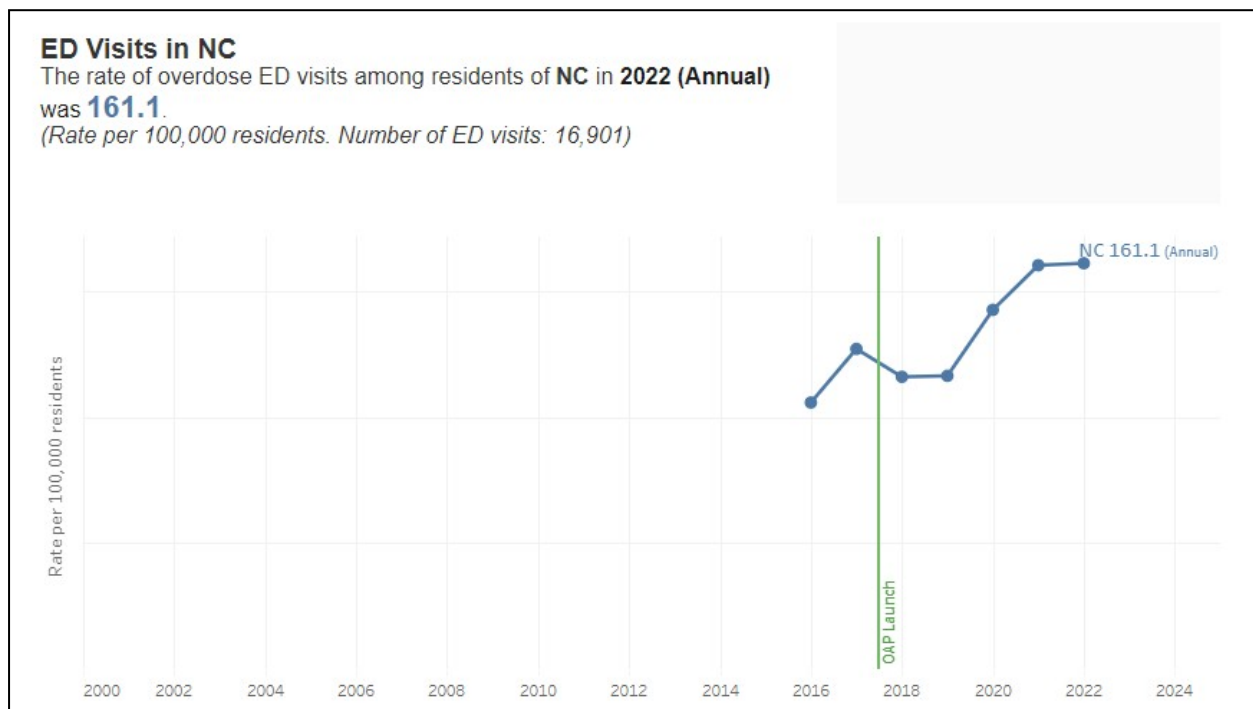
Graph from NCDHHS, Opioid and Substance Use Action Plan Data Dashboard, <https://www.ncdhhs.gov/opioid-and-substance-use-action-plan-data-dashboard>, Accessed April 2023.

¹ Centers for Disease Control and Prevention, National Center for Health Statistics. Drug overdose deaths in the U.S. top 100,000 annually. Centers for Disease Control and Prevention. November 17, 2021. Accessed June 12, 2023. https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2021/20211117.htm.

² CDC 2021.

previous year.³ Additionally, data from NCDHHS Opioid and Substance Use Action Plan Data Dashboard (OSUAPD) shows the overdose death rate in Buncombe County increased from 2019 at 32.5 per 100,000 residents to 38.7 in 2020.⁴ This rate continues to be higher than the state (31.5 per 100,000) and national (28.3 per 100,000) averages for 2020 despite the fact that Buncombe County continues to provide more treatment services and buprenorphine prescriptions than the state average.⁵

Not only did overdose death rates increase, but emergency department visits related to overdose also increased dramatically. NCDHHS reports in NC, “there were also nearly 15,000 emergency department (ED) visits related to drug overdoses in 2020 [and] provisional surveillance data suggest these increases continued through 2021.”⁶



Graph from NCDHHS, *Opioid and Substance Use Action Plan Data Dashboard*, <https://www.ncdhhs.gov/opioid-and-substance-use-action-plan-data-dashboard>, Accessed April 2023.

³ North Carolina Department of Health and Human Services. North Carolina reports 40% increase in overdose deaths in 2020 compared to 2019; NCDHHS continues fight against overdose epidemic. North Carolina Department of Health and Human Services. March 21, 2022. Accessed June 12, 2023. <https://www.ncdhhs.gov/news/press-releases/2022/03/21/north-carolina-reports-40-increase-overdose-deaths-2020-compared-2019-ncdhhs-continues-fight-against>.

⁴ NCDHHS 2022.

⁵ Ibid.

⁶ Ibid.

OVERDOSE CRISIS IMPACT ON BIPOC COMMUNITIES

The overdose crisis has long been erroneously seen as a crisis that predominantly impacts white communities.⁷ NCDHHS confirms that “both overdose deaths and ED visits disproportionately affect historically marginalized populations.”⁸ In fact, the rate of increase in overdose has been highest for BIPOC communities in NC. This has been true locally in Buncombe County as well, per the NCDHHS, Opioid and Substance Use Action Plan Data Dashboard.

Overdose Death Rates by Year and Race, Increase from 2019 to 2021

Race	2019 rate	2021 rate	Increase
American Indian/Indigenous	43.3	94.1	117%
Black/African American	16.1	38.5	139%
White	27.4	42.0	53%

Deaths per 100,000 residents; Non-Hispanic

Graph from NCDHHS, North Carolina Department of Health and Human Services. North Carolina reports 40% increase in overdose deaths in 2020 compared to 2019; NCDHHS continues fight against overdose epidemic. North Carolina Department of Health and Human Services. March 21, 2022. Accessed June 12, 2023. <https://www.ncdhhs.gov/news/press-releases/2022/03/21/north-carolina-reports-40-increase-overdose-deaths-2020-compared-2019-ncdhhs-continues-fight-against>.

ACCESS TO CARE

Challenges for addressing the opioid crisis include poor access to evidence-based medications for opioid use disorder (MOUD), lack of trained providers, geographic and transportation barriers, endemic stigma, lack of coordination between addiction and other healthcare services, and insufficient harm reduction services access.⁹ Inequity related to race, ethnicity, and language compounds the situation for BIPOC communities.

⁷ Ibid.

⁸ Ibid.

⁹ Orgera K, Tolbert J. Key facts about uninsured adults with opioid use disorder. KFF. February 19, 2020. Accessed June 12, 2023. <https://www.kff.org/uninsured/issue-brief/key-facts-about-uninsured-adults-with-opioid-use-disorder/>.

Overdose risk continues to increase due to the prevalence of cheap fentanyl¹⁰ and methamphetamine, now routine contaminants in the local drug supply, resulting in overdose scenarios complicated by stimulant induced psychosis and delirium on top of the respiratory depression due to opioid overdose.¹¹ To address the evolving opioid crisis, MAHEC and other area outpatient MOUD providers have expanded outpatient treatment access in the last several years, as evidenced by the increases in the percent of residents receiving dispensed buprenorphine prescriptions. In Buncombe County, this increased¹² from 0.7 % in 2021 to 2.7% as of February 2022. Despite this, overdose rates have worsened due to ongoing morbidity and mortality among individuals at the highest risk of overdose; particularly uninsured, unhoused individuals with recent incarceration and/or non-fatal overdose.¹³ Due to the barriers to care described, these individuals cannot and do not access life-saving MOUD from existing models of care available in Buncombe County.

*EMS and Community Paramedicine services are the fundamental bridge
between provider and patient in a post-overdose situation.*

Lack of insurance is one of the biggest barriers to lifesaving treatment for opioid use disorder (OUD),¹⁴ thus contributing to the ongoing worsening of the overdose crisis. In NC, where, as of March 2023, Medicaid expansion has passed state legislature, but has not been enacted¹⁵, individuals who are uninsured have four times the expected overdose rate than individuals with Medicaid. People who experience overdose who are revived by EMS constitute the highest risk individuals due to lack of housing, lack of insurance, and co-occurring severe mental illness.¹⁶ These same patients often refuse transport to the ED because of stigmatized

¹⁰ Rothberg RL, Stith K. Fentanyl: A Whole New World? Journal of Law, Medicine & Ethics. 2018;46(2):314-324. doi:10.1177/1073110518782937.

¹¹ Ibid.

¹² NCDHHS 2022.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ North Carolina Department of Health and Human Services, Governor Cooper Signs Medicaid Expansion into Law, 27 March 2023, <https://governor.nc.gov/news/press-releases/2023/03/27/governor-cooper-signs-medicaid-expansion-law> Accessed 27 March 2023.

¹⁶ Zozula A, Neth MR, Hogan AN, Stolz U, McMullan J. Nontransport after Prehospital Naloxone Administration Is Associated with Higher Risk of Subsequent Non-fatal Overdose. Prehosp Emerg Care. 2022;26(2):272–279. doi: 10.1080/10903127.2021.1884324.

treatment by providers and lack of effective management of withdrawal and addiction.¹⁷ Thus, the highest risk patients often interface with the health system solely via EMS.

PROJECT DESCRIPTION

The objective of BB2C is to reduce overdose death and improve the lives of individuals with OUD who are at high risk for overdose by connecting them to a primary care provider to receive MOUD, naloxone, and connections to community resources. MOUD and harm reduction are among the most effective evidence-based treatment interventions for OUD to prevent overdose death. Non-fatal overdose is one of the biggest predictors of fatal overdose,¹⁸ so by developing post-overdose services that include low barrier, rapid buprenorphine initiation and linkage to ongoing care, we will reduce overdose death and EMS utilization.

Many of these patients have experienced stigma with the existing systems in the community, whether law enforcement, emergency room, hospital, shelters, etc. Many choose to not go to the emergency department (ED) even post-overdose; instead, after naloxone resuscitation by bystanders or first responders, many experience naloxone-induced withdrawal and relieve symptoms with a return to illicit opioid use. Thus, the highest risk patients repeatedly engage with emergency services or no healthcare services. BB2C aimed to address this specific population by immediately initiating buprenorphine in the field after naloxone

Story: A woman (aged 40-50) Called 911 for withdrawal symptoms; CP responded and provided buprenorphine induction—providing immediate relief and return to “feeling whole again.”

Success: Patient completed detox and rehab, secured employment, improved relationship dynamics with family and is now living with family.

¹⁷ Glenn MJ, Rice AD, Primeau K, Hollen A, Jado I, Hannan P, McDonough S, Arcaris B, Spaitte DW, Gaither JB, et al. Refusals after prehospital administration of naloxone during the COVID19 pandemic. *Prehosp Emer Glenn MJ, Rice AD, Primeau K, et al. Refusals After Prehospital Administration of Naloxone during the COVID-19 Pandemic. Prehosp Emerg Care. 2021;25(1):46-54. doi:10.1080/10903127.2020.1834656.*

¹⁸ Saloner B, Chang HY, Krawczyk N, et al. Predictive Modeling of Opioid Overdose Using Linked Statewide Medical and Criminal Justice Data. *JAMA Psychiatry. 2020;77(11):1155. doi:10.1001/jamapsychiatry.2020.1689.*

resuscitation, when a patient is experiencing withdrawal symptoms and would then have improvement from the buprenorphine. Additionally, many patients had trust in the PORT team already and would specifically reach out to the CP team when in withdrawal and in distress.

The project protocols were designed to be able to initiate these patients on buprenorphine as well, even if not immediately post overdose, because the alternative was to continue to or return to illicit opioid use. Fentanyl prevalence in the drug supply became the dominant opioid in the years before this project began, which dramatically increased the risk of overdose with each specific illicit opioid use event. Thus, prioritizing rapid, low barrier initiation of buprenorphine for anyone that wanted it, not just those immediately post overdose, was added to the scope of our project. Without this service, if a patient was experiencing opioid withdrawal and had the often profound yet brief window of motivation to stop using illicit opioids and start MOUD, they had to navigate an unclear healthcare system with waiting lists, varying requirements for mandatory behavioral health engagement, transportation to brick-and-mortar locations, and often the need for insurance. The window usually closed with no treatment for the patient in Buncombe County—until the BB2C project.

BEFORE BUPRENORPHINE: POST-OVERDOSE RESPONSE TEAM (PORT)



Photo By Justin Hall, Used With Permission

Before BB2C, PORT CP operated as the first contact with a patient after a 911 dispatch call was made with primary or suspected overdose or substance use crisis. The CP team already had established trust and relationships with the community through response efforts to connect individuals to crisis and social determinants support and refer to treatment. After arriving on the scene, the CP team would assume leadership on the response if safe to do so, taking over from law enforcement or other first responder staff. Before BB2C, CP team members (who have specialized training in crisis and substance use and are often people with lived experience or had loved ones with lived experience of substance use disorder) would provide immediate treatment and support to the patient, but could not in that window of opportunity counsel the patient on MOUD and initiate the medication on scene. Realizing this window of opportunity through first-hand experience, the PORT CP team pursued initiating this buprenorphine field induction in collaboration with MAHEC in Buncombe County.

WHY LOW BARRIER FIELD BUPRENORPHINE INITIATION?

Opioid-related overdose deaths are a steadily increasing problem that creates a disproportionate demand on both clinicians, emergency services and first responders. According to NCDHHS Opioid and Substance Use Action Plan Data Dashboard, between 2000 and 2020, over 28,000 people died of overdose in North Carolina, most attributed to opioids.¹⁹ In more recent years, synthetic opioids such as fentanyl became widely available and inexpensive in many communities, which has resulted in a significant increase in overdose deaths due to the potent nature of these drugs.²⁰ By 2016, synthetic opioid overdoses had overshadowed deaths related to heroin or commonly prescribed opioids. Even more recently, fentanyl analogues, xylazine, nitazenes, and other novel psychoactive substances have contaminated illicit drug supplies beyond traditional opioids, thus greatly exacerbating an already uncontrolled public health crisis.²¹

¹⁹ NCDHHS 2022.

²⁰ Mattson CL, Tanz LJ, Quinn K, Kariisa M, Patel P, Davis NL. Trends and Geographic Patterns in Drug and Synthetic Opioid Overdose Deaths — United States, 2013–2019. *MMWR Morb Mortal Wkly Rep* 2021;70:202–207. DOI: <http://dx.doi.org/10.15585/mmwr.mm7006a4>.

²¹ Mohr ALA, Logan BK, Fogarty MF, et al. Reports of Adverse Events Associated with Use of Novel Psychoactive Substances, 2017–2020: A Review. *Journal of Analytical Toxicology*. 2022;46(6):e116-e185. doi:10.1093/jat/bkac023.

Buprenorphine is a medication that can be administered in the field immediately post-overdose and prescribed by a physician for continued, monitored use. Buprenorphine is a partial agonist at the mu receptors in the brain that has minimal respiratory suppression when it is used as prescribed.²² Buprenorphine has a long half-life of 24-36 hours with a slow dissociation from the mu receptor, which means it stays on the receptor itself for that long half- life.²³ Additionally, it has a very high affinity for the mu receptor, which means it can block other opioids or displace them, which can lead to a precipitate withdrawal in the patient.²⁴

Story: A man (aged 50-60), who had been a Previous PORT participant with continued use and repeat non-fatal overdoses, engaged with CP for buprenorphine field induction.

Success: After entering the program, the patient had no additional overdoses since induction and minimal return to use. They have since continued to engage in care and obtained a job helping others who are unhoused and have substance use disorders.

When administered when a patient is already in opioid withdrawal, such as directly after naloxone resuscitation of opioid overdose, buprenorphine can quickly improve withdrawal symptoms, prevent cravings for opioids, and reduce effectiveness and overdose risk of illicit opioid use. This is especially important as fentanyl lipophilia has made traditional buprenorphine initiation, requiring increasingly lengthy opioid abstinence, more difficult for persons with fentanyl dependence.²⁵ In this toolkit, we seek to provide a framework for implementation that includes both field implementation of MOUD as well as ideas for peer support networks that can connect those who have overdosed with the resources they require.

²² Kumar R, Viswanath O, Saadabadi A. Buprenorphine. StatPearls [Internet]. January 2023. Accessed June 12, 2023. <https://www.ncbi.nlm.nih.gov/books/NBK459126/>.

²³ Ibid.

²⁴ Ibid.

²⁵ Huhn AS, Hobelmann JG, Oyler GA, Strain EC. Protracted renal clearance of fentanyl in persons with opioid use disorder. *Drug Alcohol Depend.* 2020 Sep 1;214:108147. doi: 10.1016/j.drugalcdep.2020.108147. Epub 2020 Jul 2. PMID: 32650192; PMCID: PMC7594258.

PRE-IMPLEMENTATION PLANNING

As with many innovative projects, ours started with champions of the idea from key agencies: EMS and MAHEC. Both agencies were already versed in community treatment resources and gaps; both agencies had leadership that supported the champions to develop a vision for post overdose buprenorphine. Below is a summary of key “ingredients” that we believe led to successfully getting the project started. These steps are in a logical order, but often one step would require going back to revise previous steps.

Ingredients for success:

- 1) Leadership buy-in from key agencies (at the very least, EMS and outpatient prescriber)
- 2) From each agency, identifiable champions of new program who meet regularly and often.
- 3) Key agency capacity: personnel, appointment slots, care coordination, hours of operation, competing priorities.
- 4) Existing resources in the community: MOUD, harm reduction and syringe exchange, peer support, naloxone, HIV/HCV testing and treatment, housing support agencies, medical treatment for uninsured, mental health treatment for uninsured, emergency department and hospital services, detox and mobile crisis services, perinatal addiction care
 - a. Honest analysis of strengths and weaknesses of these resources, including barriers to access
- 5) Assessment of clinical need, including number of patients to treat in specified time period, demographics of population, geographic area to cover, overdose volume, EMS burden (both overdose and non-overdose), specific barriers to treatment for patients at highest risk for overdose.
- 6) Specific evidence-based interventions to employ starting with overdose and ending in clinical outpatient stability.
 - a. Clinical protocols and workflows, agreed upon by agencies’ treatment teams, to ensure programmatic consistency and scalability.
 - b. Identify personnel that already exist to be involved in project vs personnel that need to be hired.
 - c. Identify training needs depending on specified roles, and don’t underestimate stigma/bias training.
- 7) SPECIFIC budget for specific project activities based on specific project objectives in a specific timeline with specific milestones.
 - a. Use SMART²⁶ objectives: specific, measurable, achievable, relevant, and time-bound.

²⁶ Centers for Disease Control and Prevention. Develop SMART Objectives. Center for Disease Control and Prevention Public Health Professionals Gateway. Published November 22, 2022. Accessed June 12, 2023. <https://www.cdc.gov/publichealthgateway/phcommunities/resourcekit/evaluate/develop-smart-objectives.html>.

- 8) Find a funder: meet with stakeholders with available funding to pitch the idea, whether philanthropic organization, county/state leadership, state/federal grants, etc.
 - a. Relationship building takes time and patience and humility.
- 9) Connect with community agencies to identify opportunities for collaboration, particularly around wrap-around services. Find opportunities to provide services that already exist rather than writing them into your budget.
- 10) Identify performance metrics and patient demographics and outcome measures to inform project quality improvement efforts, to demonstrate impact to stakeholders, to motivate the project team on successes, and to identify gaps in service delivery.
 - a. Develop protocols to collect data, store data in HIPAA compliance, share data effectively with stakeholders.
- 11) START SMALL! Doing a few shifts weekly, with a goal of a handful of relatively lower risk patients, will help build momentum. Proof of concept can lead to stakeholder buy-in and increased funding.
- 12) Collect not just quantitative data, but narratives as well- of challenges and successes. Stakeholders are moved by numbers and stories both, not just one or the other!

During the pre-implementation period, the project team addressed the following items:

- Staffing and Roles
- Establishing referral workflow and appointment availability
- Staff training
- Contracts to provide patients medication and social determinants of health support (cell phones and bus passes)
- Buprenorphine Initiation Protocol
- Patient workflow
- Data collection Tools and Management

The team (MAHEC and CP) defined workforce capacity as shown in the Team Roles section, then proceeded to recruit/hire, and train the listed staff. The teams assessed available community resources, engaged with community stakeholders, and defined metrics for data collection. MAHEC provided project management, training, data collection and evaluation, and clinical consultation. BCEMS hired and formalized additional roles (PSS) to expand workforce capacity. All BCEMS received training in buprenorphine administration protocol.

Referral communication was a key issue to develop so that patient contact info and clinical information between agencies could be shared in a HIPPA compliant way. This required appropriate capacity building for MAHEC’s outpatient buprenorphine service line to ensure appointment availability within 5 days of EMS buprenorphine initiation.

Pre-Implementation Check List		
	MAHEC	BCEMS
Protocol	Consult with BCEMS and NC EMS to create buprenorphine field initiation protocol	Formalize and integrate buprenorphine field initiation protocol in workflow
Workforce	Hire and train PSS, project manager, data scientist	Hire additional CP and PSS staff
Medications	Establish community naloxone access and buprenorphine access from contracted partner pharmacy	Acquire Buprenorphine, Clonidine. List all meds to carry on First Out Truck. Create Med Protocols
Capital Expenses and Equipment		Acquire First Out Trucks
Contracts with Partner Agencies	Complete contract with Community Pharmacy for medication access	Complete contract with PSS Agency
Referral Workflow	Establish incoming direct referral system	Establish outgoing referral system and ROI
SDOH Support	Contract with agency to provide SDOH support (bus passes, smart phones)	Discuss relationship with SDOH agency and liaising to support patients

Transportation	SDOH partner agency provides bus passes	Determine capacity and system to transport patients to outpatient referral provider (MAHEC)
Training	Provide buprenorphine initiation and SUD training and ongoing TA to BCEMS	Attend training in medication administration, patient evaluation and counseling, data collection, and referral protocol
Team Meetings	Attend recurring meetings	Attend recurring meetings
Data Collection	Referral Form and Patient Assessments	Referral Form and Patient Assessments
Evaluation	Dashboard with metrics to monitor for continuous quality improvement	

PORT CP TEAM: FIRST OUT TRUCKS

The First Out Trucks are Ford F150's that are equipped to respond to dispatch calls. Both are grey with large decals on the side that identify the trucks as the CP trucks. Each truck runs a single responder with two CPs on each 24-hour shift. Each truck is equipped with a variety of supplies and are monitored and restocked on a weekly basis. See next page for a detailed list.

SAMPLE SUPPLY LIST FOR FIRST OUT TRUCKS

Unit:	Mileage:	Date Range: / /2022 - / /2022
--------------	-----------------	--------------------------------------

	F	S	S	M	T	W	T
TOP ZIP							
PLASTIC CASE NARCAN/MAD X2							
EMISIS BAG							
TOP FLAP INSIDE NET							
MANUAL BP CUFF							
STETHOSCOPE							
PT INFO PAD							
LEFT POCKET: INSIDE ZIPPER NET							
4X4 (5)							
2X2 (5)							
BX7 COMBI PAD (2)							
2" KLING (4)							
4" KLING (2)							
1/2" & 2" TAPE (1 EACH)							
LEFT POCKET: LEFT STRETCH NET							
TOURNIQUET (2)							
CHEST SEAL (2)							
HEMOSTATIC GAUZE (1)							
LEFT POCKET: RIGHT STRETCH NET							
TRIANGLE BANDAGE (2)							
ACE BANDAGE (2)							
COBAN DRESSING (1)							
DECOMPRESSION NEEDLE (1)							
CHLORA-PREP (1)							
RIGHT POCKET: INSIDE ZIPPER NET							
SALINE 1L (1)							
10 DROP DRIP SET (1)							
RIGHT POCKET: LEFT STRETCH NET							
14, 16, 22, 24G IV (2 EACH)							
SHARP CONTAINER (1)							
FLUSHES (4)							
INT (4)							
RIGHT POCKET: RIGHT STRETCH NET							
18, 20G IV (3 EACH)							
START KITS (3)							
MAIN COMPARTMENT: FLAP TOP ZIP							
OB KIT W/ BULB SYRINGE							
BROSELOW TAPE							
MAIN COMPARTMENT: FLAP BOTTOM ZIP							
NEB SETUP W/ ALBUTEROL							
NRB & NC (1 EACH)							
NPA 24, 26, 30 (2 EACH)							
OPA 1, 2, 3, 4, 5 (1 EACH)							

	F	S	S	M	T	W	T
MAIN COMPARTMENT: RIGHT HALF							
OXYGEN M6 W/REGULATOR							
ADULT BVM OD KIT: NPA/2mg NARCAN, MAD							
MAIN COMPARTMENT: IO KIT							
EZ IO DRILL							
EZ IO NEEDLES- BLUE (2) YELLOW (2)							
EZ STABILIZER DEVICE							
XYLOCAINE 2% 100mg/5mL							
ANTISEPTIC SWABS (4+)							
10cc SYRINGE (2)							
MAIN COMPARTMENT: LEFT HALF UNDER IO KIT							
I-GEL 3, 4, 5 (1 EACH)							
MAIN COMPARTMENT: STAT PACK MED MODULE							
FLUSHES (5)							
10cc SYRINGE (3)							
3cc SYRINGE (5)							
18G/23G SAFETY IM NEEDLES							
APAP W/ MED CUP							
ASPIRIN							
ORAL GLUCOSE (1)							
SODIUM BICARB (1)							
D-50 (1)							
EPI 1:10 (2)							
EPI 1:1 (1)							
LIDOCAINE (1)							
ATROPINE (1)							
NITRO							
BENADRYL (2)							
KETOROLAC (2)							
HALOPERIDOL (2)							
AMIODORONE (3)							
SOLU-MEDROL (1)							
ZOFRAN (2)							
PROMETHAZINE (2)							
GLUCAGON							
AFRIN							
D-10							
NARCAN (2)							
ALBUTEROL (5)							
IPRATROPIUM (5)							
RESPIRATORY SALINE (5)							
ADDITIONS							

		F	S	S	M	T	W	T
Z O L L M O N I T O R	POWERS UP AND TEST 30J DEFIB							
	4-LEAD & V-LEAD CABLES							
	ADULT MULTI PADS- ASSEMBLED							
	SPARE ADULT MULTI PADS (1)							
	PEDS MULTI PADS							
	ADULT B/P CUFF							
	SPARE B/P CUFFS- PEDS, S, M, XL							
	ECG ELECTRODES (6+ PACKS)							
	RAZORS (2)							
	EKG PAPER (1)							
	ADULT CO2 NASAL CANNULA							
	SPO2 CABLE AND REUSABLE PROBE							
	DISPOSABLE FINGER PROBE							
	THERMOMETER							
	GLUCOMETER							
	GLUCOSE STRIPS (10+)							
	LANCETS (5+)							
	BANDAIDS (5+)							
	CHARGE/SWAP BATTERY							
	L I F E A R M	POWERS ON/OPERATIONAL						
POWER CORD								
BATTERY CHARGE/SWAP (OR AFTER EACH USE)								
PUCK IN GOOD CONDITION								
SPARE PUCK (1)								
NECK STRAP								
S U C T I O N	SUCTION UNIT- CHARGED							
	YANKAUER TUBING ATTACHED							
	18 FR. SUCTION TUBING							
	SPARE YANKAUER TUBING							
M I S C E L L A N E O U S	WOUNDCARE KIT STOCKED							
	CLIPBOARD STOCKED							
	COOLER W/ WATER STOCKED							
	NARCAN KITS STOCKED							
	BATTERY LEVEL: MONITOR/LIFEARM							
	OXYGEN LEVEL IN JUMPBAG							
	EMERGENCY LIGHTS							
	FORMAT DASH CAMERA							
	SIREN/HORN							
	FUEL LEVEL							
	FUEL CARD							
	MILEAGE							

		F	S	S	M	T	W	T	
S A F E	BUPRENORPHINE								
	CLONIDINE								
	BUS PASSES								
	MAT PHONE (1)								
	OTC MAT MEDICATION								
	IMMODIUM (10)								
	BENADRYL (10)								
	IBUPROPHEN (10)								
	ACETAMINOPHEN (10)								
	ZOFRAN QDT (10)								
ADDITIONS									

PORT CP MEDICATION ACQUISITION

PORT CP also had to go through purchasing and acquisition to ensure buprenorphine and other medicines were acquired and in place on the ambulance at the time of implementation. This was done in partnership with a pre-existing supplier. After the Lead Community Paramedic completed the waiver to order a controlled substance, they were able to order the medication. This requires documentation on the CP trucks, and they are required to be stored in a twice locked location inside of the vehicles. The Lead CP monitors and orders the medication supply depending on the need. Over the counter blister packs and clonidine are ordered through this supplier as well.

Additionally, the PORT CP team ensures they have a stock of:

- Cold Bottled Water
- Harm Reduction Supplies
 - Naloxone kits
 - Fentanyl test strips
 - Xylazine test strips
 - Clean needles
 - CPR face shields

Some Frequently Asked Questions for PORT CP:

How do you obtain the Buprenorphine?

We obtain our Bupe from the same pharmacy that our EMS get their narcotics. We did have to contact our DEA agent to determine how he wanted it to be documented, and get one of our team members added to our Buncombe Co EMS DEA authority to order.

How do you navigate patient transportation protocols?

Transportation protocol needs to be developed outside of standard EMS operating policies in order to find a pathway for success. Focusing on what barriers to treatment they have the ability to remove.

FUNDING CONSIDERATIONS AND OPTIONS

As discussed previously, there are a variety of different potential funding needs for this project. These include but are not limited to: outpatient medicine cost, medical visits, behavioral health visits, peer support services, newly hired staff, SDOH funding, medicine on the trucks CP, paramedics, and program management staff. These will also vary depending on your community and the resources or organizations that are already established.

There are other potential funders, though, that are not private institutions. These include HRSA/SAMHSA, NC State HHS, individual county budgets, and opioid settlement funding. The argument can and should be made that investing in these programs will overall improve community health, public safety, and dollars spent on emergency response services and the criminal justice system.

TEAM ROLES

Below is a list of roles within the two partner organizations. These provide a general overview of roles and responsibilities.

Primary Care Based MOUD Team (MAHEC):

Role	Description
Lead Investigator	Oversees project implementation
Clinical Prescribers	Provide clinical care as the primary physician for OUD
Behavioral Health Providers	Provide behavioral health assessments and treatment in coordination with clinical prescribers
MOUD Nurse Coordinator	Provides case management and appointment coordination, including referral processes

Peer Support Specialists	Provides SDOH support and has lived experience to better connect with the patient
Project Management team	Manages the project and external partnerships, including funding management
Evaluation Specialist	Manages the evaluation and data tracking for reporting and monitoring needs

Community Paramedic/EMS Team (BCEMS):

Role	Description
EMS Medical Director	Oversees and upholds scope of practice for Buncombe County EMS
Community Paramedic Program Manager	Oversees program, functions in a dual role of paramedic supervisor and administrative lead. Applies for and manages grant funds
Community Paramedics (6 Full-Time)	Provide 24/7 coverage for Post Overdose Response and Suboxone Administration
Peer Support Coordinator	Provides initial consult with PORT/MAT clients, assigns cases to peer support specialists, coordinates long term case management

Peer Support Specialists	Provide both acute and long term logistical and emotional support to PORT and MAT participants. Bring clients to MAT appointments and coordinate ongoing care. Lead support groups
Mobile Mental Health Clinician	Provides mobile mental health support to PORT/MAT participants, makes referrals on behalf of PORT to detox facilities

There are six full time and one part-time CPs in addition to the CP Program Manager. Currently, there are 2 CPs working per day, in 24-hour shifts. After an individual is dosed and the referral is sent to MAHEC, there is a transitional period where the CP begins a warm handoff to the Peer Support Coordinator who will connect with the patient and assign them with the PSS who has capacity and will be the best fit for that specific patient. The Umoja PSS make an informed decision after introductions of when the patient can be more fully transitioned from the Peer Support Coordinator to the Umoja PSS. This is documented in the software Julato, and the PSS can flag and communicate with each other if additional support is needed. From there, the PSS will be the primary contact for the patient outside of MAHEC.

OUTPATIENT MOUD PROVIDER

MAHEC provides primary care-based OUD treatment using buprenorphine in combination with naloxone and only provides buprenorphine “monoproduct” for documented naloxone allergy. Patients receive a prescription on the first visit because we know that medication is the most important aspect to reducing risk of overdose. Patients are not required

to engage with behavioral health services of any kind, but they are available and encouraged whenever a patient is interested. MAHEC approaches patients with appropriate language and through a trauma-informed, harm reduction mentality. If patients continue to misuse non-opioid illicit substances, we do not reduce their buprenorphine, but we do encourage increased engagement with the provider team. MAHEC does not prescribe benzodiazepines generally, but if a patient is prescribed this already from another provider or if they are using illicit sedatives, this does not prevent them from receiving buprenorphine, though MAHEC clinical staff fully discuss risks. If patients continue to use substances, MAHEC encourage use of unused equipment and provide prescriptions for needles and syringes or connect them to syringe service programs. It is MAHEC's practice to tell patients to never use alone, to utilize test doses, to avoid driving when intoxicated. In the rare situation when it is clear that a patient is not experiencing any improvement from their treatment from us, MAHEC staff will try to connect them with a higher level of care or at least address barriers that prevent successful treatment. The entire MAHEC staff, from the front desk, to nurses, to providers are all trained in trauma informed care, and they all understand that addiction is a biomedical disease that can be prevented and treated, though often not cured.

Story: A woman (aged 30-40) overdosed on "Xanax" (unknowingly pressed with fentanyl). After overdose reversal, patient was received buprenorphine field induction by CP.

Success: Because the program pays for monthly buprenorphine, the patient has been able to start saving money, which allowed her to pay for vehicle repairs, get her ID, and start looking for employment. Furthermore, her partner was able to successfully get into SUD treatment, and they got married.

While the MAHEC clinic is a federally qualified health center "look alike", and thus can offer sliding scale support to indigent patients, even still cost is a barrier for patients, particularly medication costs. Therefore, the program utilized grant funding to support the costs for uninsured patients: medical and behavioral visits, medications, and peer support services. Peer support service were available to all patients in this program, even if insured, at a ratio of one peer for every 30-40 patients.

VITAL ROLE OF PEERS

Peer support specialists are healthcare workers with lived experience of a particular medical or social condition who engage with patients of the same condition. It is a low barrier, interpersonal relationship building intervention that meets patients where they are at in their recovery journey, as so can be implemented in any setting for any patient. It helps patients connect when they have no other connections to the health system, often due to stigma from the health system as well as internalized stigma and can facilitate linkage to community and treatment resources. It helps empower those with lived experience to see their struggles as an asset to their community, to help others struggling with the same issues. In the context of substance use disorders, it is evidence-based medicine, with studies showing up to a 50% relative risk reduction in opioid overdose and 50% relative risk benefit for starting opioid use disorder medications.²⁷

Because patients served in this project are at the highest risk for overdose due to multiple overlapping barriers like insurance status, stigma, transportation, poverty, housing, and mental health disorders, peers are absolutely integral to the success of treatment initiation and ongoing engagement in care. Starting with the peers on the PORT team, patients have the opportunity for engagement in empathetic, trauma informed care immediately after overdose. Sometimes, especially early in the project, patients were untrusting and reluctant to engage due to stigmatizing care in emergency rooms or with other first responders. Peers maintained contact and often weeks or even months later, patients would reach out for engagement and treatment initiation. Peers were instrumental in developing the rapport so that patients felt comfortable engaging with paramedics to eventually discuss and initiate buprenorphine. Throughout this process, they built trust and reduced health risk by connecting to homeless service providers, food insecurity resources, and even sleeping bags, coats, snacks, and a sympathetic ear.

²⁷ Winhusen T, Wilder C, Kropp F, Theobald J, Lyons MS, Lewis D. A brief telephone-delivered peer intervention to encourage enrollment in medication for opioid use disorder in individuals surviving an opioid overdose: Results from a randomized pilot trial. *Drug Alcohol Depend.* 2020 Nov 1;216:108270. doi: 10.1016/j.drugalcdep.2020.108270. Epub 2020 Sep 1. PMID: 32911132; PMCID: PMC7462596.

They could facilitate obtaining identification (often needed to obtain meds from the pharmacy, let alone engage in social services and get basic life skills back on track), engaging with court appointments, and transportation to appointments.

When patients did initiate treatment, PORT peers communicated regularly with MAHEC peers to provide a transition of peer services. This is a critical step as trust is not easily transferred, and sometimes PORT peers would stay engaged or even reengage, particularly for patients that would fall out of care with MAHEC. But, as patients engaged in visits with MAHEC, the clinic peers would take over the same vital role that PORT played, often focused on bigger picture recovery plans rather than crisis management. MAHEC clinic peers also conducted patient assessments (see evaluation section above) to better understand immediate needs and progress toward goals. Unlike the rest of the healthcare team, peers were available by text on work phones—many patients had phones without data plans or minutes, and so would rely on free wi-fi at local businesses for communication.

Story: A woman (aged 30-40) overdosed on illicit “RoxyCotin” (unknowingly pressed with fentanyl). After overdose reversal, patient was received buprenorphine field induction by CP.

Success: She has built trust with her peer support team and provider to have conversations about continued illicit opiate use, and with support has decreased her use by half.

Lastly, Buncombe EMS strategically partnered with “Umoja Health, Wellness, and Justice Collective” for additional peer support capacity. This was because most of PORT and MAHEC team members were not BIPOC, whereas Umoja focused on these communities purposefully and Umoja peers themselves identified as BIPOC. Locally in Buncombe, like nationally, BIPOC overdose rates are worsening and overtaking white communities’ overdose rates, and as stated above, there are multiple barriers to treatment engagement for BIPOC communities, not the

least of which is the lack of BIPOC providers of all types. We continue to work with a broad coalition of community partners that serve BIPOC communities to better understand better approaches to engage those communities in care.

TRAINING

Training sessions were presented by addiction medicine experts following the objectives below. Technical assistance was offered to supplement the training provided. The complete project team also met weekly for the first several months, before transitioning to biweekly to assist in addressing specific clinical scenarios or unique situations. The addiction medicine expert was available by phone during working and evening hours for clinical consultation during the first months of this project, which provided much appreciated assurance to the CP team that they were implementing procedures appropriately and making reasonable clinical decisions.

Introductory Training:

- Overview of the opioid crisis
- Pharmacology and protocols for buprenorphine initiation
- Science behind harm reduction and peer support
- Referral Process including release of information, data sharing, patient assessment tools

Buprenorphine Induction Training:

- Logistics of Field Induction
 - Specifics of dosing an individual in the field
 - COWS Scale review and usage
 - Example case studies
 - Patient workflow following induction and linkage to care in outpatient setting

Additional Training Topics:²⁸

- Xylazine and Wound Care Basics
- Perinatal Patients and MOUD

²⁸ These topics were not included in this pilot.

PARTNERSHIPS

PHARMACY PARTNERSHIP

MAHEC contracted with a local pharmacy to provide MOUD to patients enrolled under the project. Patients in the project can go to one of two locations and receive their medications at no cost to them, as the grant covers medication costs. Patient prescriptions are sent over with agreed upon identifiers to alert the pharmacy that the patient is a part of the project and will not be charged for the medication. The pharmacy sends a monthly drug utilization report as well as a monthly invoice to MAHEC. After MAHEC project team verifies the patients, the invoice is paid. In addition to buprenorphine, MAHEC opted to include a short formulary of approved and commonly prescribed supportive medications, including withdrawal management medications and FDA approved treatments for nicotine use disorder and alcohol use disorder. Insured patients can use the pharmacy of their choice.

SOCIAL DETERMINANTS OF HEALTH SUPPORT PARTNERSHIP

In addition to providing patients with medications at no cost and covering the costs of medical and behavioral health visits, the other partnership that MAHEC has is with Sunrise Community for Health and Wellness, and they support with the social determinants of health resource distribution. This distribution includes purchasing phones and bus passes that are eventually distributed to project patients to reduce barriers to treatment engagement. MAHEC PSS and BCEMS CP PSS coordinate with this agency to access phones and bus passes and get them to the patient.

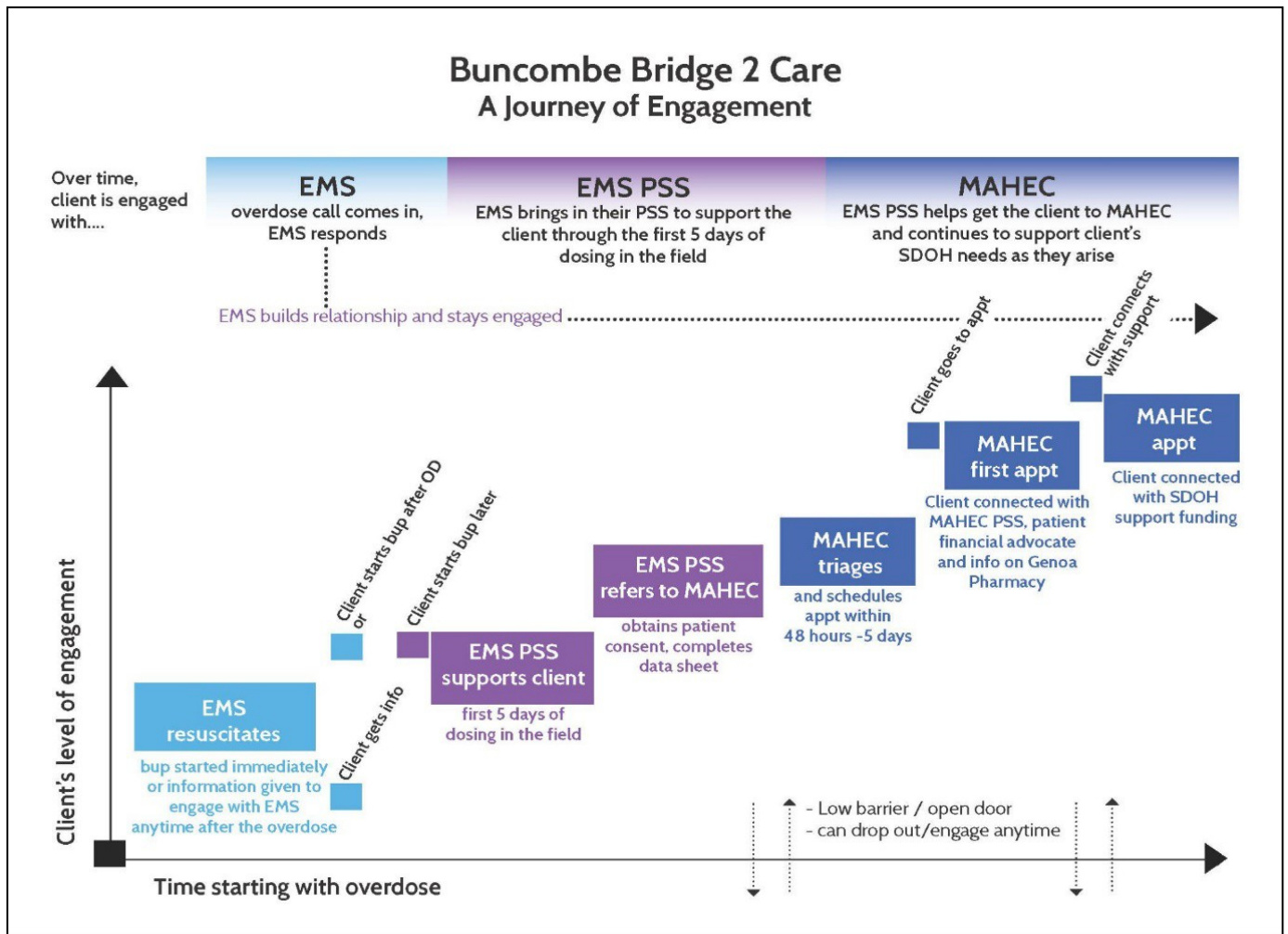
DATA SHARING

All data-sharing procedures were approved by both agencies through a data use agreement (DUA). The ultimate purpose of all data collection is to provide whole-person care to patients, monitor for problems in the clinical application of protocols, and seek opportunities for continuous quality improvement. To collect data for the interagency registry, a series of assessments (see Appendix II. BB2C Patient Assessment) are administered

to program participants at their initial introduction to the program and every three months through the duration of their participation in the program. Buncombe County Community Paramedic PSS is responsible for conducting the baseline assessments with program participants and MAHEC PSS conducts reassessments every 3 months thereafter. There is an online form via Smartsheets that is managed by MAHEC that allows secure data sharing of the baseline assessments from the Community Paramedic Team. Baselines are then de-identified and aggregate data is organized and published on a Smartsheet Dashboard that can be shared with invested community partners. During the first year of implementation, data tracking and monitoring systems have been improved from a predominantly manual workflow to an automated system that utilizes our EHR platform.

IMPLEMENTATION

This section will describe the project implementation following the arc of a patient experiencing an overdose, EMS response, engagement, and outpatient referral. This pathway infographic illustrates the patient journey.



911 Dispatch comes in, EMS Responds

The First Out Trucks are dispatched and respond to calls alongside EMS and Fire as appropriate. Information from the call is communicated and CP will respond with resuscitation if needed. If the resuscitation is successful, the CP will introduce themselves and monitor the individual's recovery from the overdose. This is not done in a rigid manner, but rather a conversation to build trust offer resources. If the individual is interested in MOUD, the CP will explain the program. Additionally, they will have the individual consent to treatment, sign a Release of Information, and send a referral to MAHEC. The CP also asks what other substances the individual could have taken to identify any concern for polysubstance use. After this is done, the CP will begin dosing.

First Out Trucks respond to things beyond overdose, as well. They are dispatched on all cardiac arrests to ensure that there is no risk for an overdose to be unknowingly identified as a cardiac arrest. Additionally, the First Out Trucks respond to all "unknown" calls and are dispatched with the medical. They can also be sent to assist other EMS crews and are dispatched to all house fires.



Photo By Justin Hall, Used With Permission

PATIENT ENTRY AND CONSENT:

There are three pathways to enter the program:

1. Immediately Post Overdose:

The first pathway is if the patient has experienced an overdose and they agree to take the sublingual buprenorphine in the field with the CP's immediately post- overdose. Sometimes, patients are not receptive to immediately starting the program and they call back hours or days after the overdose event.

2. Recently Following an Overdose:

This is our second pathway, where patients can call back to EMS and the CPs will go and meet them in the community and dose them and begin the referral process up to a week post overdose.

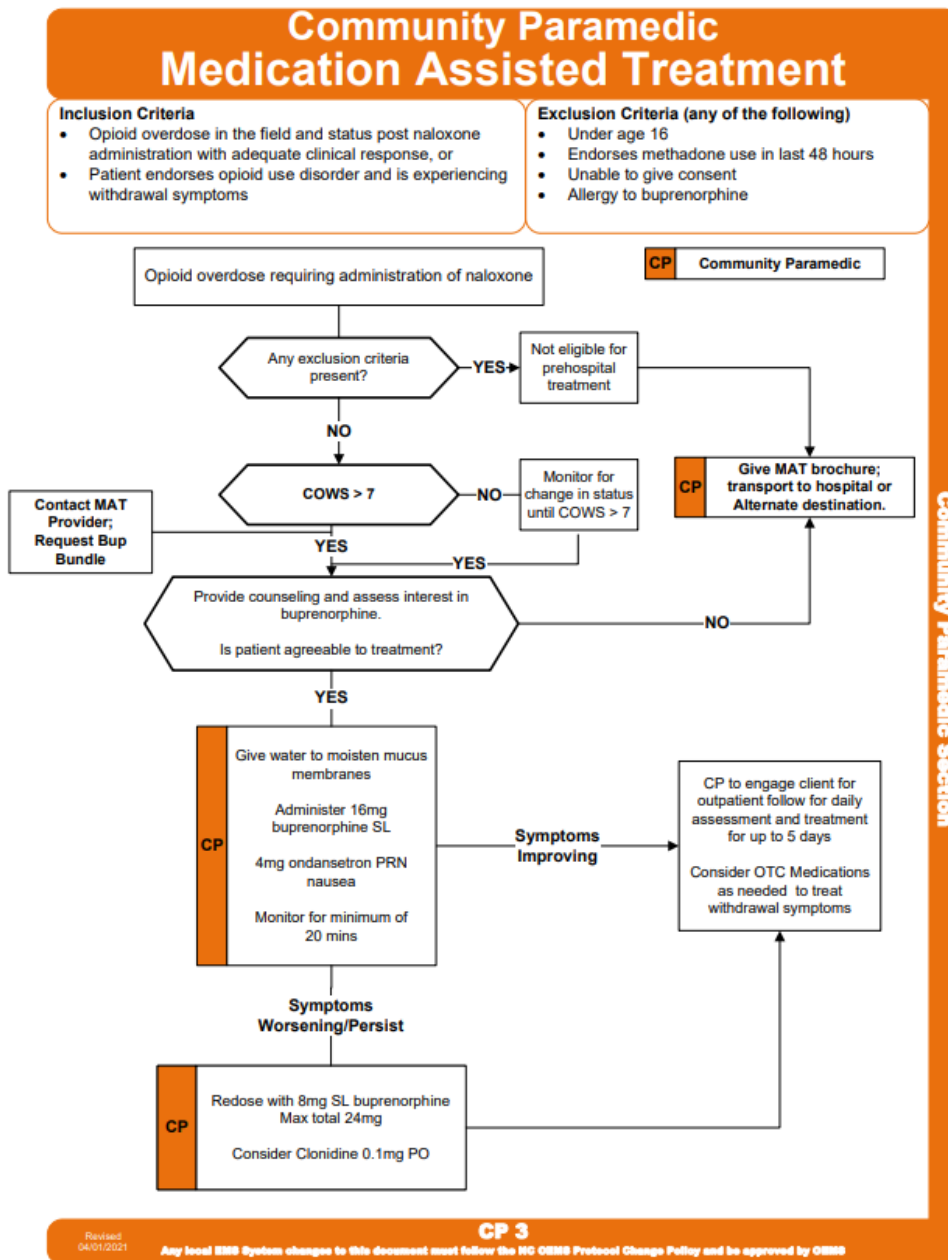
3. High Risk Referral by CP:

Our third pathway is more subjective, where CPs decide to dose a patient who is at a high risk of overdosing even without a recent overdose. Patients often hear about our program through word-of-mouth in the community and if they are at a high enough risk of a fatal overdose, the CPs can begin dosing in the field.

For each pathway, the CPs follow the approved protocol and send a referral to MAHEC if the patient agrees to treatment.

FIELD INITIATION PROTOCOL

As previously stated, this project augmented the existing post-overdose response team (PORT) efforts provided by Buncombe County EMS by adding buprenorphine treatment initiation in the field. After opioid overdose resuscitation, trained CP administer sublingual buprenorphine in accordance with approved Medicated Assisted Treatment Protocols (*below*) created by



Buncombe County EMS in consultation with MAHEC, and NC EMS leadership. These protocols were initially based on published protocols from other programs.²⁹ EMS Peer support specialists (PSS) then connect the patients to outpatient addiction treatment services and primary care at MAHEC to continue buprenorphine in the primary care setting.

²⁹ Carroll GG, Wasserman DD, Shah AA, et al. Buprenorphine Field Initiation of ReScue Treatment by Emergency Medical Services (Bupe FIRST EMS): A Case Series. *Prehosp Emerg Care.* 2021;25(2):289-293. doi:10.1080/10903127.2020.1747579

FIELD DOSING

Dosing in the field is determined by a Clinical Opiate Withdrawals Scale (COWS) score, which is an objective assessment of opioid withdrawal and structured inclusion and exclusion criteria. Utilization of COWS, or another assessment of opioid withdrawal, is important due to the pharmacology of buprenorphine: if buprenorphine is used when opioids are in the patient's system, precipitated withdrawal may occur due to competitive agonism at the opioid receptor, causing adverse symptoms and likely disengagement with care. If the patient's COWS score is greater than 7 and the patient is agreeable to treatment, then they can be medication can be administered. The COWS is less than or equal to 7 and the patient has recently used opioids, dosing must wait until the patient is further in withdrawal with a higher COWS score. If the COWS is low because no opioid use has happened in days, the patient can be initiated on treatment. Dosing in the field starts with giving the patient some water to moisten the mucus membranes, administering buprenorphine sublingually, 4mg ondansetron as needed for nausea, and to monitor for minimum of 20 minutes to see how the patient responds.

Buprenorphine is only absorbed mucosally, not via oral administration, so 10min of sublingual retention of the dose is needed for medication absorption. The dose is initially 16mg if immediately post overdose and post naloxone, otherwise 8mg. If symptoms worsen or persist after monitoring for 30-60 min, then another 8mg sublingual buprenorphine is given and the paramedic may consider Clonidine 0.1mg to improve withdrawal symptoms, and if not hypotension. If the symptoms improve and they are feeling better, the CPs are to engage with the patient for daily assessment and treatment for up to five days. The CPs will meet patients pretty much anywhere in the community: private residences, fast food parking lots, homeless encampments, or other agencies' buildings. In those five days, a referral has been sent to MAHEC where the patient is scheduled for a new patient appointment to begin outpatient MAT.

REFERRAL PROCESS

All referrals are received through an electronic HIPPA compliant platform developed by the project team. The EMS CP enters a referral in this form, which allows the EMS CP to upload a ROI and MAHEC RM care Manager to promptly be notified of the referral and schedule an office visit.

Once a referral is received through the Smartsheet referral form (Appendix 1) the OBOT (office-based opioid treatment) nurse coordinator at MAHEC will attempt to contact the patient to schedule an in-office appointment. Often, patients do not have cell phones which makes contacting them a challenge. The most effective way to address this is for the CP or Peer Support Coordinator who is going to dose them on days 1-5 to call the OBOT nurse when they are with the patient for dosing. This ensures that the patient is aware of their appointment time and are actively engaged from the beginning of their care. Once a patient lands in clinic and attends their first appointment, they are given a phone at no cost to them that is preloaded with 3 months of service. This is the only phone they receive, and sometimes it is lost or stolen, but this allows the OBOT nurse to communicate directly to the patient after their first appointment.

Patients also have transportation barriers that make attending regular appointments difficult. For the first appointment, the CP can pick the patient up at the agreed upon time and location and take them to their first appointment at MAHEC. Similarly structured like the phones, after the patients first appointment, they are given bus tickets at no cost for the Asheville public transportation system. One of the bus routes comes through the MAHEC parking lot, making transportation less of a barrier for the patients in the program. Patients can receive bus passes for the duration of their time in the program.

During the time that the CP are dosing daily and connecting with the patients before their first appointment, they also conduct a baseline assessment (Appendix 2). This baseline assessment is sent to MAHEC project staff through a secured Smartsheet form to be used for case management and quality improvement purposes. At the patient's first appointment at MAHEC, a peer support specialist (PSS) will connect with the patient and will be partnered with them for the duration of their time in the program. The PSS will also be responsible for conducting a reassessment (Appendix 3) for the patient at months 3, 6, 9, and 12. These

reassessments are also utilized for evaluation purposes, monitoring trends, and assessing the needs of the patient outside of the clinic.

After their first appointment, the CP or Umoja peers can drive the patient to one of two pharmacies that the project has partnered with to pick up their medications at no cost to them. After their first appointment, the patient can utilize the bus passes to stop by their preferred pharmacy to continue to pick up their medications.

FIRST APPOINTMENT

Buprenorphine is the most effective way to immediately reduce a patient's risk for overdose, continued opioid misuse, and engagement in care. Thus, MAHEC's "harm reduction" approach to OUD treatment is to reduce as many barriers as possible to medication initiation and continuation. Besides addressing cost, insurance, transportation, stigma, and phone access, this means that it is not required to have behavioral health treatment to receive buprenorphine treatment. MAHEC does not focus on an extensive history and physical on the first visit but instead focus on building a therapeutic alliance. MAHEC does obtain consents for treatment, including urine drug testing at each and every buprenorphine visit, at the first appointment. If the patient is able to do so, the conducts the initial assessment if not already done so by the CP team. Patients are offered HIV and Hepatitis C testing, without cost via grant, as often as appropriate based on any recent risk since last testing. Because MAHEC provides OUD treatment in the context of primary care, patients are required to become our primary care patients; if they have a primary care provider elsewhere, they either have to switch or we work to transfer their OUD treatment to another provider. We never, though, stop buprenorphine because of this reason. The only reason a patient is stopped on buprenorphine is due to strong concern for diversion or because the treatment is not improving OUD (continued opioid use) despite providing maximal services available at MAHEC that the patient agrees to.

Patients are initially seen every week for a few weeks, until opioid misuse ceases and clinical stability develops. During this time, dose may be changed due to ongoing cravings or side effects. As patients stabilize, they are assessed for comorbid SUDs or mental health disorders and treatment is offered; at times, they are referred to MAHEC psychiatry. If a

patient does indeed have hepatitis C or HIV, MAHEC has providers than can manage those conditions, including for uninsured patients, while also providing buprenorphine. Co-located services have been shown to improve outcomes both for infectious diseases like HIV and Hepatitis C and also improve OUD outcomes.^{30, 31, 32} Over time, patient medication visits are spaced out if mutually agreed upon: every 2-3 weeks, then monthly. Peer engagement continues in between, as well as behavioral health visits as desired. If a patient is stable for 12 months, they can be seen every 2 months, and eventually every 3 months.

All patients are connected to naloxone via prescription or, for uninsured patients, via community programs that dispense naloxone without cost. Patients are counseled about syringe exchange programs and can receive prescriptions for injection equipment as needed. Patients are connected to resources like neverusealone.com, local Narcotics Anonymous or SMART Recovery or MARA. And behavioral health therapy services are available on site or via telehealth if patients want it.

30 Artenie AA, Cunningham EB, Dore GJ, et al. Patterns of drug and alcohol use and injection equipment sharing among people With Recent Injecting Drug Use or Receiving Opioid Agonist Treatment During and Following Hepatitis C Virus Treatment With Direct-acting Antiviral Therapies: An International Study. *Clin Infect Dis*. 2020;70(11):2369-2376. doi:10.1093/cid/ciz633

31 Jiang X, Vouri SM, Diaby V, Lo-Ciganic W, Parker R, Park H. Health care utilization and costs associated with direct-acting antivirals for patients with substance use disorders and chronic hepatitis C. *J Manag Care Spec Pharm*. 2021;27(10):1388-1402. doi:10.18553/jmcp.2021.27.10.1388

32 Falade-Nwulia O, Irvin R, Merkow A, et al. Barriers and facilitators of hepatitis C treatment uptake among people who inject drugs enrolled in opioid treatment programs in Baltimore. *J Subst Abuse Treat*. 2019;100:45-51.

EVALUATION

During the first iteration of the BB2C tracking system, we used Smartsheet to show process measures, patient programmatic measures, and patient outcome data that were all displayed visually on a dashboard. The Community Paramedic Team and MAHEC are each responsible for tracking various measures which inform all project staff on the progress, obstacles, and successes of the program. The second iteration of the BB2C tracking system, that leverages questionnaires, is within our EHR system, which stores and pulls the data into a Power BI dashboard that automatically refreshes on a daily basis. This improvement allows less time to be spent on updating spreadsheets by cross-referencing charts one-by-one. We are able to pull a majority of the data from patient charts and view them in aggregate form on the Power BI dashboard which also allows for real-time filters by program status (active v inactive) and program entry pathways (immediately post-overdose, reach out to paramedic days after overdoses, or reach out to paramedic not having experienced a recent overdose). Regarding reassessment data, we can further filter aggregate charts by reassessment intervals (3, 6, 9, or 12 months). We can see the number of refused assessments, which informs our team how well of a response rate we are achieving and informs our process improvement discussions. Data collection, aggregation, and review with stakeholders is imperative for project success. The dashboard allows for summary data to be easily reviewed. We utilize this to demonstrate impact with funders and county leadership, to identify trends and gaps in care to inform continuous quality improvement efforts via Plan-Do-Study-Act cycles, and to determine future plans for sustainability and scalability. Table 1 below lists all of the performance measures we use to track and continually improve our processes as well as inform our team on patient outcomes.

Table 1. BB2C PERFORMANCE MEASURES

Performance Measure	Agency Responsible for Tracking/Monitoring
# of OD EMS responses	Community Paramedics
# of OD Deaths	Community Paramedics
# of Naloxone Reversals	Community Paramedics
# of Paramedic Initiated Buprenorphine Inductions	Community Paramedics
# of Buprenorphine Inductions within 1 week of initial EMS post overdose care	Community Paramedics
\$ spent per person for SDOH Needs	MAHEC
Types of SDOH Purchases	MAHEC
# of Program Participants Engaged in Care at 3, 6, 9, & 12 months	MAHEC
# of Program Participants Responding to Treatment at 3, 6, 9, & 12 months	MAHEC
Duration of Engagement in Care (average days)	MAHEC
Post-Overdose Interagency Registry	MAHEC
HIV/Hepatitis C Testing within first 6 months of Treatment Initiation	MAHEC
# of Referrals from Community Paramedics	MAHEC
Average Time to Schedule Referrals (days)	MAHEC
Average Time from Scheduling to Attending Appointment (days)	MAHEC

# of Referrals Scheduled	MAHEC
# Patients that Attend First Appointment	MAHEC
# of Unenrolled Patients with Reasons for Unenrollment	MAHEC
# Active Patients	MAHEC
# of Medical, PSS, Behavioral Health, & Telehealth Appointments Attended	MAHEC
# of Referrals that Never Land in Clinic	MAHEC
# of Months of Unused Funding	MAHEC

PATIENT ASSESSMENTS

Assessing program participants begins with a baseline (at the onset of engaging with BB2C) and at every three-month interval as long as they are still active in the program until their 12 months of funding is completed. These assessments create the Post-Overdose Interagency Registry and compiles a variety of information on patient demographics, programmatic demographics, overdose and substance use history, employment status, education status, insurance status, veteran status, social determinant of health (SDOH) factors including housing and residency history, trends in overdoses, and a geomap of overdose locations. We also monitor for changes in substance usage, employment, education, insurance, SDOH factors, and screen for overdoses that occur during their engagement within the program from baseline to reassessments. This data is communicated between both agencies in an effort to better understand the targeted population as well as to inform clinical practices as program participants engage in care. Assessments were drafted with input from both agencies, which allows for continual monitoring of various measures that each agency finds interest in. The Community Paramedic PSS administers the baseline, typically before the first BB2C appointment at MAHEC. This information then informs our PSS and clinical staff what the

patient is presenting with as well as other clinically relevant information. Our PSS reassess at every three-month interval and this data is aggregated and communicated back to the Community Paramedic Team. This information, additionally, is used to assess for resource needs and prompt referrals to community agencies that provide support for food insecurity, housing, legal services, domestic violence services, and community engagement.

CHALLENGES

At the beginning of implementation, there were various barriers regarding data collection, maintenance, and ensuring data validity. As there was no previously used workflow for collecting data with participants or secure data-sharing channels between agencies, we found ourselves creating the foundation with an understanding that flexibility would be necessary for the viability of the program. There are still plans to continue to improve the secure data-sharing channels between agencies for this project, including the county's continued implementation of an electronic health record program called Julato that will allow for real-time data sharing and MAHEC plans to integrate this system with MAHEC's internal system to improve data monitoring and patient care. The hope is that this software will be part of a wider effort to integrate efforts among various agencies in the community, including the local hospital/ER, the local state funded inpatient drug treatment facility, the sheriff's office, and numerous outpatient treatment providers.

Another challenge has been due to the success of this model in building trust in an otherwise incredibly marginalized population. The demand on the paramedics has at times outweighed capacity, as community members with OUD who stabilize tell their friends and family to call the CP team to engage in care, often when in acute withdrawal and feeling desperate. Thankfully, with time the CP team has built capacity to meet this demand with additional paramedics, peers, and trucks. Likewise, this has created increasing need for outpatient visits at MAHEC, especially as total unique patient volume increases with follow up visits needed, but likewise MAHEC continuously works to secure resources via grants to increase provider and care coordinator capacity. Additionally, MAHEC has been building services for increasingly complex patients with comorbid psychiatric or stimulant use disorder,

such as an intensive outpatient program, and a low barrier walk-in clinic for patients already part of the program who otherwise tend to miss scheduled appointments.

CONCLUSION: The Need for Bridge to Care Programs

******Report from a Community Paramedic shift 10 days before we launched our Bridge to Care Program******

“ROI was obtained after an overdose and participant was recently discharged from jail with some suboxone, has a history of methadone experience, and was really engaged in conversation about meeting tomorrow to be connected with MAT resources and meet peer support. However, he used again at the xxxxxx on xxxx and went into cardiac arrest as a result of the second OD. I was first on scene, worked the arrest, 13 helped and transported, we got ROSC at the hospital and he is on a ventilator, but will likely never wake up. Talking with him about what we were going to be able to do in a few weeks with inducting people onto buprenorphine he even said, "That would be amazing if you had it now, I would like to start now." A sad outcome since he did not make it.”

The PORT team has done incredible work within the community and connecting with individuals that often fall through the gaps. The trust the PORT team has built with the community was the reason BCEMS and MAHEC were able to identify the missing component of linking people directly to care. This partnership has created opportunities for low-barrier office based opioid treatment for individuals who are at a significant increased risk for fatal overdose.

Useful Resources

[NC Department of Health and Human Services // Injury and Violence Prevention](#)

[Branch, Post-Overdose Response Team \(PORT\) Toolkit](#)

[National Harm Reduction Resource Center](#)

[NC Certified Peer Support Specialist Program \(NCCPSS\)](#)

[NC Drug User Health Resource Guide by Region, January 2022](#)

[Nccare360](#)

[Substance Use and Opioid Use Disorder Training resources \(MAHEC\)](#)

[CA Bridge: EMS Bridge Program CA Bridge: Starting Buprenorphine Immediately after Reversal of Opioid Overdose with Naloxone Protocol](#)

Appendix I. MAHEC Referral Form



MAHEC Substance Use Disorder Referral Form

To refer yourself or someone else to MAHEC, please fill out the following form.

Are you requesting an appointment for yourself or someone else?
*

Referring Agency *

Referring Agency Contact Email *

Was patient started on Buprenorphine in the field?

Legal Last Name

Legal First Name

Preferred Name

Preferred Pronouns

Assigned Sex at Birth

DOB

Race/Ethnicity



MAHEC Substance Use Disorder Referral Form

To refer yourself or someone else to MAHEC, please fill out the following form.



MAHEC Substance Use Disorder Referral Form

To refer yourself or someone else to MAHEC, please fill out the following form.

Primary Phone Number

Alternate Phone Number

Email

County

Address

City

State

Zipcode

Insurance Information

Pregnant or Postpartum

Postpartum up to 12 months

Currently on MOUD/MAT

Appointment Urgency

Currently on MOUD/MAT

Appointment Urgency

Relevant Information

Please add any additional information including substances last used, when, and buprenorphine dosage given.

ROI

Signed ROI must be uploaded here or emailed to FMOBOTBHVM@mahec.net

Drag and drop files here or [browse files](#)

Submit

Appendix II. BB2C Patient Assessment

Name & Contact Info:

Date and time of:

- OD:
- Induction:

Location:

Select one:

- Immediately post OD/post reversal induction
- Reached out hours/days later after the reversal
- Reached out to start treatment with EMS- not necessarily following a recent OD

Baseline Intake: (Required at intake)

Demographics:

- 1) Name
- 2) DOB
- 3) What race/ethnicity do you consider yourself? Please choose all that apply.
 - a. Alaska Native
 - b. American Indian
 - c. Asian
 - d. Black or African American
 - e. Native Hawaiian or other Pacific Islander
 - f. White
 - g. Middle Eastern
 - h. Hispanic/Latinx
 - i. None of the Above
- 4) Biological Sex
 - a. Female
 - b. Male
 - c. Other, please specify
- 5) Gender Identity
 - a. Female
 - b. Male
 - c. Transgender
 - d. Non-Binary
 - e. Other, please specify
- 6) Current Address (zip code/county)
- 7) Are you a veteran?
 - a. Yes
 - b. No
 - c. Active Armed Forces, Reserves, or National Guard

- 8) Do you currently reside in Buncombe County or are you just passing through?
 - a. Resident- I live here
 - b. Traveling/ transient/ temporary
- 9) If a resident, how long have you lived in Buncombe County?
 - c. <1 year
 - d. 1-4 years
 - e. 5-9 years
 - f. ≥10 years
- 10) Please list all NC counties that you lived in over the past 5 years.

Alamance County
 Alexander County
 Alleghany County
 Anson County
 Ashe County
 Avery County
 Beaufort County
 Bertie County
 Bladen County
 Brunswick County
 Buncombe County
 Burke County
 Cabarrus County
 Caldwell County
 Camden County
 Carteret County
 Caswell County
 Catawba County
 Chatham County
 Cherokee County
 Chowan County
 Clay County
 Cleveland County
 Columbus County
 Craven County
 Cumberland County
 Currituck County
 Dare County
 Davidson County
 Davie County
 Duplin County
 Durham County

Edgecombe County
 Forsyth County
 Franklin County
 Gaston County
 Gates County
 Graham County
 Granville County
 Greene County
 Guilford County
 Halifax County
 Harnett County
 Haywood County
 Henderson County
 Hertford County
 Hoke County
 Hyde County
 Iredell County
 Jackson County
 Johnston County
 Jones County
 Lee County
 Lenoir County
 Lincoln County
 Macon County
 Madison County
 Martin County
 McDowell County
 Mecklenburg County
 Mitchell County
 Montgomery County
 Moore County
 Nash County

New Hanover County
 Northampton County
 Onslow County
 Orange County
 Pamlico County
 Pasquotank County
 Pender County
 Perquimans County
 Person County
 Pitt County
 Polk County
 Randolph County
 Richmond County
 Robeson County
 Rockingham County
 Rowan County
 Rutherford County
 Sampson County
 Scotland County
 Stanly County
 Stokes County
 Surry County
 Swain County
 Transylvania County
 Tyrrell County
 Union County
 Vance County
 Wake County
 Warren County
 Watauga County
 Washington County
 Wayne County

Wilkes County
Wilson County

Yadkin County
Yancey County

Baseline Intake Part 2: Completed by Peer at intake or soon after first encounter

1. Which services are you utilizing in Buncombe County?
 - a. Drop down of services
2. How many times have you experienced an opioid overdose in your lifetime?
 - a. Never
 - b. 0-5
 - c. 6-10
 - d. More than 10
 - e. Prefer not to answer
3. How many times have you experienced an opioid overdose in the past 30 days?
 - a. Never
 - b. 0-5
 - c. 6-10
 - d. More than 10
 - e. Prefer not to answer
4. What substances do you regularly use?
 - a. Alcohol
 - b. Benzodiazepines
 - c. Cannabis (Marijuana)
 - d. Synthetic Cannabis
 - e. Cocaine
 - f. Gabapentin
 - g. Hallucinogens (MDMA, LSD, ketamine, etc.)
 - h. Heroin or Fentanyl
 - i. Kratom
 - j. Medication for Opioid Use Disorder (suboxone/buprenorphine)
 - k. Methadone
 - l. Methamphetamine
 - m. Prescription opioid pain medication
 - n. Tobacco/ Vaping
 - o. Other, please specify
 - p. None of the above
 - q. Prefer not to answer
5. Are you currently receiving any of the following substance use disorder (SUD) treatment services?
 - a. Group support (AA NA etc.)
 - i. Smart Recovery
 - b. Peer Support

- c. Individual counseling
 - d. Group counseling
 - e. Inpatient rehab
 - f. Residential tx
 - g. Halfway house/ sober living
 - h. SAIOP/ SACOT
 - i. MAT
 - i. Methadone
 - ii. Buprenorphine
 - iii. Naltrexone
 - iv. Other (disulfiram)
6. In the past 30 days have you receiving any of the following harm reduction services?
- a. Syringe exchange
 - b. Narcan
 - c. Safe use supplies/ safe injection kits
 - d. HIV/HEP c testing
 - e. PREP
7. Insurance Status (multiple choice)
- a. Insured by Employer or Private/Commercial Insurance
 - b. Military or Veteran's Insurance
 - c. Medicaid
 - d. Family-Planning Medicaid
 - e. Medicare
 - f. Uninsured
 - g. Other, please specify
8. Do you have a primary care provider (PCP)?
- a. Yes
 - b. No
 - c. Looking for a PCP
9. In the past 30 days how many times have you called 911?
- a. None
 - b. Less than 5
 - c. 6-10
 - d. More than 11
10. Do you trust that the community paramedic can help you?
- a. Not at all confident
 - b. A little confident
 - c. Somewhat confident
 - d. Confident
 - e. Extremely confident

11. Have you had any involvement with the criminal legal system over the last year such as incarceration, parole, or probation?
 - a. Yes
 - b. No
 - c. Prefer not to answer
12. Have you be incarcerated or released from inpatient treatment in the past 30 days?
 - a. Yes
 - b. No
 - c. Prefer not to answer
13. Within the past 30 days, did you worry that your food would run out before you got money to buy more?
 - a. Yes
 - b. No
 - c. Prefer not to answer
14. Within the past 30 days, have you ever stayed: outside, in a car, in a tent, in an overnight shelter, or temporarily in someone else's home (i.e. couch-surfing)?
 - a. Yes
 - b. No
 - i. If No,
 1. Are you worried about losing your housing?
 - a. Yes
 - b. No
 - c. Prefer not to answer
15. Within the past 30 days, have you been unable to get utilities (heat, electricity) when it was really needed?
 - a. Yes
 - b. No
 - c. Prefer not to answer
16. Within the past 12 months, has a lack of transportation kept you from medical appointments or from doing things needed for daily living?
 - a. Yes
 - b. No
 - c. Prefer not to answer
17. Do you feel physically or emotionally unsafe where you currently live?
 - a. Yes
 - b. No
 - c. Prefer not to answer
18. Within the past 30 days, have you been hit, slapped, kicked or otherwise physically hurt by anyone?
 - a. Yes
 - b. No

- c. Prefer not to answer
- 19. Within the past 30 days, have you been humiliated or emotionally abused by anyone?
 - a. Yes
 - b. No
 - c. Prefer not to answer
- 20. Are any of your needs urgent? For example, you don't have food for tonight, you don't have a place to sleep tonight, you are afraid you will get hurt if you go home today.
 - a. Yes
 - i. If yes, what needs and how are they addressed?
 - b. No
 - c. Prefer not to answer
- 21. Do you need assistance with any of the following:
 - a. Obtaining health insurance
 - b. Paying for medications
 - c. Education
 - d. Clothing or other basic necessities
 - e. Harm reduction services
 - f. Obtaining an ID
 - g. Employment services
 - h. Peer Support Services

Reassessment at 30, 60, 90 days

- 1. Which services are you utilizing in Buncombe County?
 - a. Drop down of services

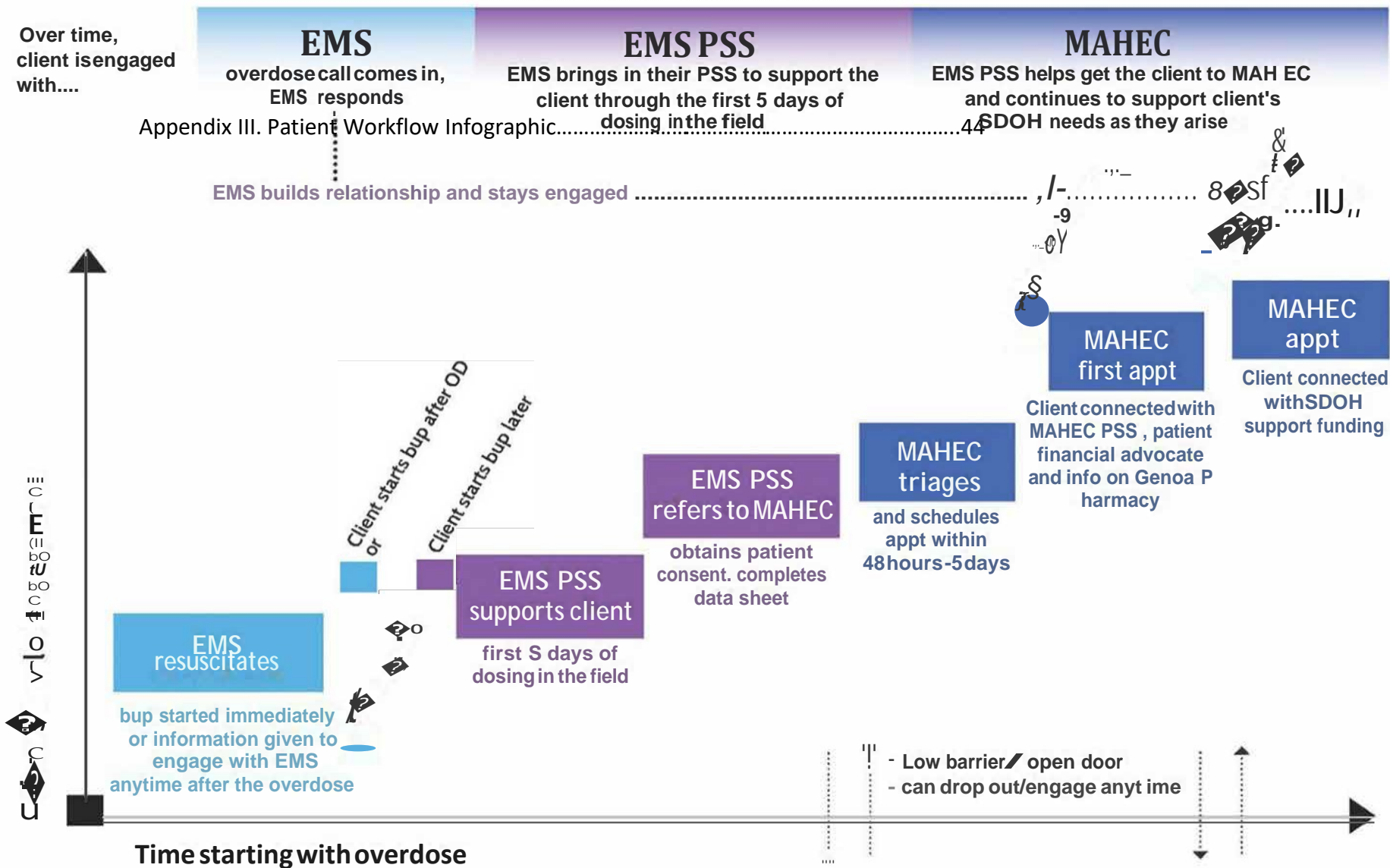
- 2. How many times have you experienced an opioid overdose in the past 30 days?
 - a. Never
 - b. 0-5
 - c. 6-10
 - d. More than 10
 - e. Prefer not to answer
- 3. What substances do you regularly use?
 - a. Alcohol
 - b. Benzodiazepines
 - c. Cannabis (Marijuana)
 - d. Synthetic Cannabis

- e. Cocaine
 - f. Gabapentin
 - g. Hallucinogens (MDMA, LSD, ketamine, etc.)
 - h. Heroin or Fentanyl
 - i. Kratom
 - j. Medication for Opioid Use Disorder (suboxone/buprenorphine)
 - k. Methadone
 - l. Methamphetamine
 - m. Prescription opioid pain medication
 - n. Tobacco/ Vaping
 - o. Other, please specify
 - p. None of the above
 - q. Prefer not to answer
4. Are you currently receiving any of the following substance use disorder (SUD) treatment services?
- a. Group support (AA NA etc.)
 - i. Smart Recovery
 - b. Peer Support
 - c. Individual counseling
 - d. Group counseling
 - e. Inpatient rehab
 - f. Residential tx
 - g. Halfway house/ sober living
 - h. SAIOP/ SACOT
 - i. MAT
 - i. Methadone
 - ii. Buprenorphine
 - iii. Naltrexone
 - iv. Other (disulfiram)
5. In the past 30 days have you receiving any of the following harm reduction services?
- a. Syringe exchange
 - b. Narcan
 - c. Safe use supplies/ safe injection kits
 - d. HIV/HEP c testing
 - e. PREP
6. Insurance Status (multiple choice)

- a. Insured by Employer or Private/Commercial Insurance
 - b. Military or Veteran's Insurance
 - c. Medicaid
 - d. Family-Planning Medicaid
 - e. Medicare
 - f. Uninsured
 - g. Other, please specify
7. Do you have a primary care provider (PCP)?
- a. Yes
 - b. No
 - c. Looking for a PCP
8. In the past 30 days how many times have you called 911?
- a. None
 - b. Less than 5
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 - d. More than 11
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- a. Not at all confident
 - b. A little confident
 - c. Somewhat confident
 - d. Confident
 - e. Extremely confident
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- a. Yes
 - b. No
 - c. Prefer not to answer
11. Within the past 30 days, did you worry that your food would run out before you got money to buy more?
- a. Yes
 - b. No
 - c. Prefer not to answer
12. Within the past 30 days, have you ever stayed: outside, in a car, in a tent, in an overnight shelter, or temporarily in someone else's home (i.e. couch-surfing)?
- a. Yes
 - b. No
 - i. If No,
 - 1. Are you worried about losing your housing?
 - c. Prefer not to answer
13. Within the past 30 days, have you been unable to get utilities (heat, electricity) when it was really needed?
- a. Yes

- b. No
 - c. Prefer not to answer
14. Within the past 12 months, has a lack of transportation kept you from medical appointments or from doing things needed for daily living?
- a. Yes
 - b. No
 - c. Prefer not to answer
15. Do you feel physically or emotionally unsafe where you currently live?
- a. Yes
 - b. No
 - c. Prefer not to answer
16. Within the past 30 days, have you been hit, slapped, kicked or otherwise physically hurt by anyone?
- a. Yes
 - b. No
 - c. Prefer not to answer
17. Within the past 30 days, have you been humiliated or emotionally abused by anyone?
- a. Yes
 - b. No
 - c. Prefer not to answer
18. Are any of your needs urgent? For example, you don't have food for tonight, you don't have a place to sleep tonight, you are afraid you will get hurt if you go home today.
- a. Yes
 - b. No
 - i. List urgent needs
 - c. Prefer not to answer
19. Do you need assistance with any of the following?
- a. Obtaining health insurance
 - b. Paying for medications
 - c. Education
 - d. Clothing or other basic necessities
 - e. Harm reduction services
 - f. Obtaining an ID
 - g. Employment services
 - h. Peer Support Services

Buncombe Bridge 2 Care A Journey of Engagement



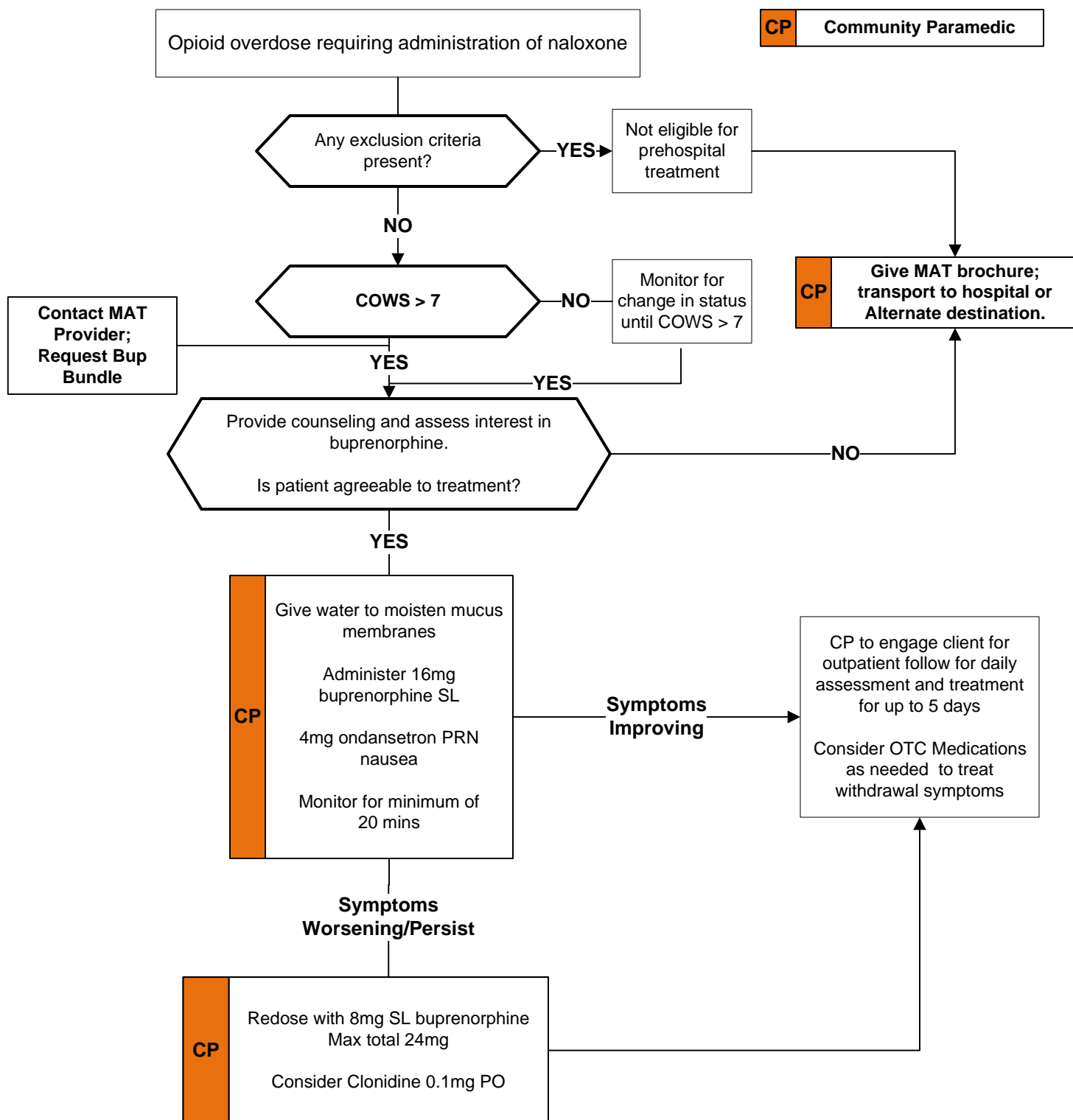
Community Paramedic Medication Assisted Treatment

Inclusion Criteria

- Opioid overdose in the field and status post naloxone administration with adequate clinical response, or
- Patient endorses opioid use disorder and is experiencing withdrawal symptoms

Exclusion Criteria (any of the following)

- Under age 16
- Endorses methadone use in last 48 hours
- Unable to give consent
- Allergy to buprenorphine



Community Paramedic Section

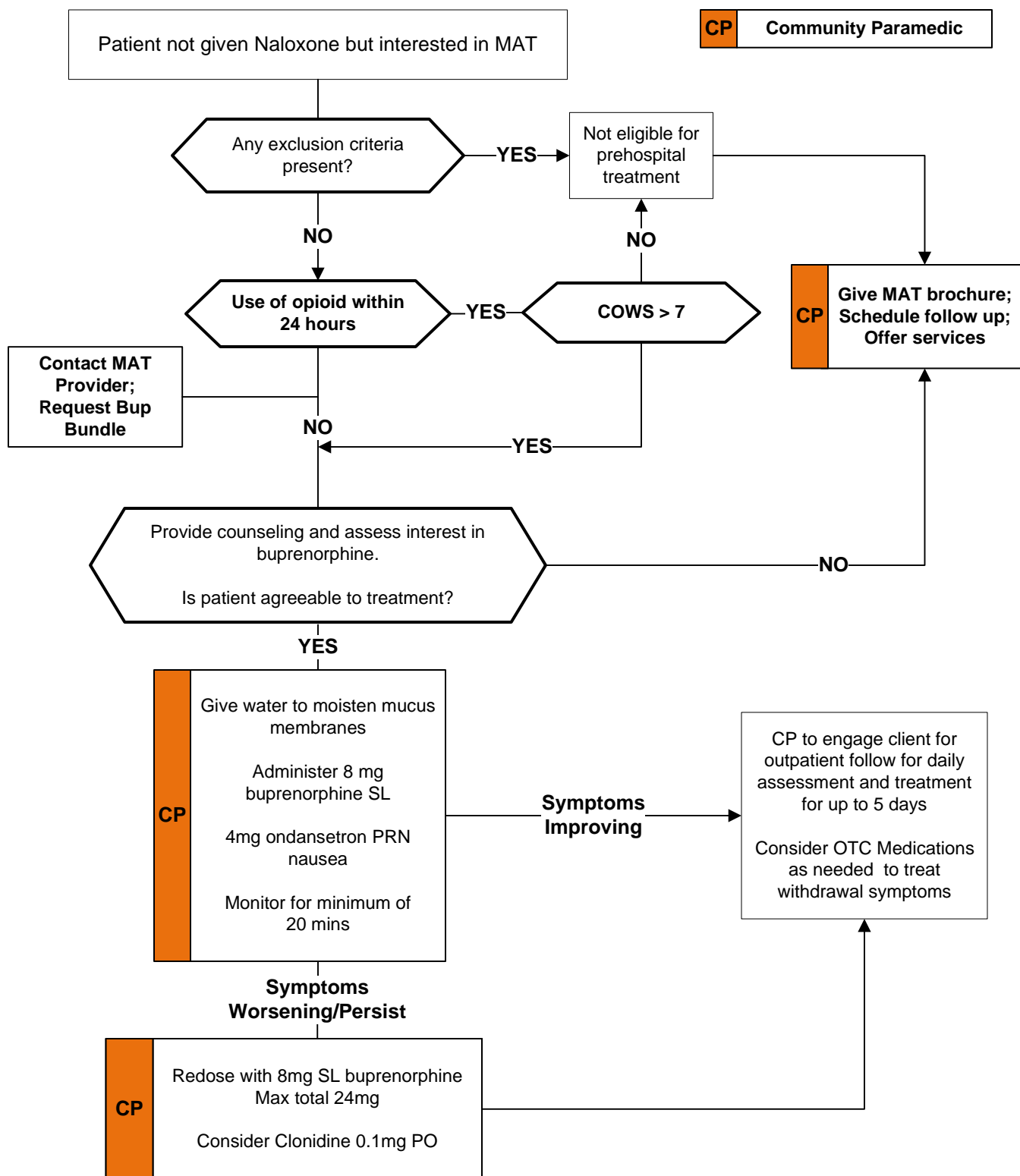
Community Paramedic Medication Assisted Treatment

Inclusion Criteria

- Opioid overdose in the field and status post naloxone administration with adequate clinical response, or
- Patient endorses opioid use disorder and is experiencing withdrawal symptoms

Exclusion Criteria (any of the following)

- Under age 16
- Endorses methadone use in last 48 hours
- Unable to give consent
- Allergy to buprenorphine



Community Paramedic Section

Community Paramedic Medicated Assisted Treatment

- Buprenorphine helps with opioid addiction craving and withdrawal symptoms.
- When initiating Buprenorphine, if patient still has opioids still in system, Buprenorphine will cause precipitated withdrawal. Perform COWS assessment to determine risk of withdrawals.
- When re-dosing, if patient used opioid since last dose, COWS must be over 7 to admin Buprenorphine. If no opioid use since last dose no need for COWS, admin Buprenorphine
- When re-dosing, if patient had persistent cravings since last Buprenorphine dose, increase dose by no more than 8 mg at a time, maximum single dose 16 mg.
- Administer no more the 16 mg of Buprenorphine at a time. Allow initial dose to dissolve completely before administering additional 8 mg. Max of 24 mg in a 24 hour period.
- After 10 minutes, any remain Buprenorphine should be spit and NOT SWALLOWED.
- Clonidine:
 - Side effects:** Dizziness, hypotension, bradycardia, fatigue, headache
 - Contraindications:** blood pressure is <90/60 or heart rate <60. Consider avoiding use if suspicion of serious Infection or cardiovascular insult
 - Initial Dose:** 0.1 mg PO
 - Repeat Dose:** **0.1-0.3 mg PO**, repeat in 1 hour as symptoms persist. Anyone that is still symptomatic after 2nd dose should be advised to be evaluated at a clinic or ED.
 - Pearls:** (patients >90 kg may receive up to 0.3 mg); may repeat every 45 to 60 minutes with a maximum daily dose of 1.2mgAfter initial dose, if symptoms are not well controlled, check blood pressure and heart rate prior to all subsequent doses- Do not give subsequent dose if blood pressure is <90/60 or heart rate <60
- Over the Counter Medication Dose packs, given to patient as need to manage withdrawal symptoms:
 - Diphenhydramine:**
Nighttime sedation for restlessness: 25-50 mg PO
 - Acetaminophen:**
Body aches and pain: 500-1000 mg PO, may be repeated every 8 hours as needed, max 3000 mg in 24 hours. May be used in conjunction with Ibuprofen for synergistic effect.
 - Ibuprofen:**
Body aches and pain: 400-600 mg PO, may be repeated every 4-6 hours as needed, May be used in conjunction with acetaminophen for synergistic effect.
 - Loperamide HCL:**
Abdominal/GI symptoms (GI cramping, diarrhea, etc.): 4 mg PO as needed. Repeat 2 mg PO as need for persistent symptoms, max dose of 10mg in 24 hours.

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