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Identifying Challenges Different Provider Group Encounter in Managing Opioid Use Disorder

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Identifying Challenges Different Provider Group Encounter in Managing Opioid Use Disorder

by

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I. Introduction

York County, the second most populated County in Maine with an estimated population of 204,191 (US Census 2017), has been greatly affected by the Opioid crisis. Opioids are prescription medications used to treat or relieve pains. They act by binding to specific receptors in the brain, spinal cord and gastrointestinal tract to reduce pain and can have other effects such as altering moods, decreased breathing and cause euphoria (SAMHSA, 2015). Synthetic opioids (other than methadone) are currently the main driver of drug overdose deaths (CDC, 2018) nationally and in Maine. The opioid crisis began in the 1990's when physicians over prescribed opioids for pain relief without knowledge of the additive effect. The consequence of this over prescription coupled with the proliferation of illicitly manufactured drugs has led to a rise in Opioid Use Disorder (OUD) (HHS fact sheet, 2019).

Currently, York Public Health District has the third highest drug/medication overdose responses and the highest drug related arrests and violent crimes when compared to other public health districts in Maine (Maine SEOW, 2018). Consequently, the number of opioid related deaths in York County has increased over the years with 79 deaths occurring between 2007-2011 and 166 deaths occurring between 2012-2016 (NORC, 2017). Also, opioid mortality rate is estimated at 28.4 per 100,000 people which is higher than the estimated 22.5 per 100,000 people in Maine and 14.1 per 100,000 people in the US (NORC, 2017).

Medicated Assisted Treatment (MAT) combines the use of medications with counselling and behavioral therapy, is an effective evidence-based treatment for OUD. The medications work by blocking the euphoric effects of opioids and relieving physiological cravings to normalize the brain and body functions (SAMHSA, 2015).

There are three FDA approved drugs used to treat OUD, these include: methadone (opioid agonist), Naltrexone (non-addictive opioid antagonist) and Buprenorphine (opioid agonist/antagonist). These drugs are highly regulated and require providers to obtain training and waivers to prescribe them. Methadone can only be prescribed in methadone clinics by waived providers working in clinics approved to be opioid treatment programs, buprenorphine is prescribed by providers who get DEA waivers while Naltrexone, can be prescribed by any licensed health provider. Similarly, another important medication is Naloxone an FDA approved drug which is mainly used during an overdose emergency to reverse the effects of opioids (SAMHSA, 2015) and are also prescribed by providers to high risk OUD patient.

Description of Problem

As of 2018, York County remains designated as a Health Professional Shortage Area and a Medically Underserved Area/Population with 0.32 providers per 1,000 population (HRSA Fact Sheet-FY 2018 York, Maine). This inadequate provider workforce makes accessing treatment for OUD difficult in York County. In addition, there are only 26 providers (including 4 Nurse Practitioners) certified to provide buprenorphine treatment (SAMHSA, 2019). This does not meet the demands for OUD treatment especially with evidence that shows that most waived providers are prescribing to less patients allowed by regulation (Andrilla, et al 2019).

To address provider shortage and limited treatment infrastructure in York County, Southern Maine Health Care (SMHC) partnered with Nasson Health Care, Maine Behavioral Healthcare (MBH), Frannie Peabody Center (FPC), North East Mobile Health Services (NEMHS) and the Kennebunk Police Department (KPD) to obtain funding from HRSA to support a comprehensive strategic planning process designed to improve the current model of care available for treatment of OUD. The goal of the project is to strengthen the current

infrastructure in rural communities in York County to ensure the provision of comprehensive prevention, treatment and recovery services to reduce opioid related morbidity and mortality.

II. Literature Review

The Drug Addiction Treatment Act of 2000 (DATA 2000), permits qualified physicians to obtain a waiver from the separate registration requirements of the Narcotic Addict Treatment Act – 1974 to treat opioid dependency with Schedule III, IV, and V medications or combinations of such medications that have been approved by FDA for that indication. To obtain waivers, physicians must complete 8 hours of required training (24 hours for nurse practitioners and physician assistants) to become qualified to prescribe to a maximum of 30 patients with OUD. The limit can be increased to 100 and then to 275 after at least one year of initial approval (SAMHSA). The DEA list shows that since 2012, the MAT workforce has increased nationwide because of the inclusion of nurse practitioners and physician assistants with 45.9% and 24.5% of urban counties having a waived NP or PA respectively and 13.8% and 4.6% of rural counties having a waived NP or PA respectively. Despite the increase in waived providers, MAT remains largely under-utilized with many waived providers not offering MAT services or limiting the size of their MAT patient panel (Andrilla et al, 2019). The proportion of heroin admissions with treatment plans that included receiving medication-assisted opioid therapy fell from 35% in 2002 to 28% in 2010 (SAMHSA’s Treatment Episode Data Set (TEDS) 2002-2010) highlighting the under prescription of MAT. Among providers, there are many barriers to implementing MAT for OUD in their clinical practice including: inadequate training, lack of institutional and clinical peer support, poor care coordination, complex insurance requirements, low reimbursements, burdensome regulatory process and providers stigma (Storholm et al 2017, Jones et al 2019 and Haffajee et al 2018).

Treatment/ Encounters of OUD by Provider Type

Emergency Department (ED) Providers:

The ED sees a high volume of individuals experiencing opioid related overdoses and Opioid Withdrawal (OW) cases. From July 2016 through September 2017, a total of 142,557 ED visits suspected to be opioid-involved overdoses (15.7 per 10,000 visits) were reported across 45 states of the US, with Maine reportedly having a significant quarterly rate increases from third quarter 2016 to third quarter 2017 (Vivolo-Kantor et al, 2018). In the ED, Buprenorphine administration can be done by any licensed provider without further certification. The ED plays an important role in the initiation and sustenance of MAT when OUD is identified in patients since ED physicians are obligated to intervene by initiating Buprenorphine treatment (Cisewski et al, 2018). There is evidence that ED-initiated Buprenorphine treatment is associated with increased engagement in outpatient treatment programs and reduced illicit drug use (D'Onofrio et al 2017). However, some views of Buprenorphine as a substitution for another drug is a common barrier in its utilization in the ED (Cisewski et al, 2018) and is underutilized in EDs (Larochelle et al, 2017). Cisewski et al, 2018 suggest that providing patient from the ED with outpatient multimodal medication-assisted treatment (MAT) clinic information for planned follow up within 48-72H is a critical component of such ED encounters.

Primary Care Providers:

Primary care settings are an important entry point for patient suffering from various chronic disease including OUD and with the wealth of medical and behavioral information available for diagnosis, it is the ideal place to integrate MAT if adequate organizational support is in place to support providers (Mannelli and Wu, 2016). The number of primary care providers with DEA waivers to prescribe MAT has increased across the US, especially with the inclusion

of NP and PA to provide office-based MAT such as Naltrexone and Buprenorphine yet, many of these providers report not using them (Andrilla, Moore, Patterson and Larson, 2019). There are notable barriers to effectively integrating MAT treatment into primary care setting. For example, rural providers have noted the lack of mental health or psychosocial support as a barrier to incorporating MAT into their practices (Andrilla, Coulthard and Patterson, 2018). Other barriers waived providers reported include lack of belief in agonist treatment, lack of time to see more patients, and low reimbursement rates while non-waived physicians cite diversion of medication and managing numerous patients as reasons for not being waived to treat OUD (Huhn and Dunn, 2017). Studies have shown that to effectively implement OUD treatment and increase MAT access in primary care, multidisciplinary and coordinated care delivery models are essential (Lagisetty et al 2017).

EMS Providers:

As first responders, EMS providers see a high volume of drug overdose cases. Naloxone an opioid antagonist that works to reverse the effect of the opioids are administered promptly during such encounters. From 2012–2016, the rate of Emergency Medical Services (EMS) naloxone administration events increased 75.1%, from 573.6 to 1004.4 administrations per 100,000 EMS events (Cash et al, 2018). However, low administration of Naloxone has been reported in some areas resulting from the difficulty in recognizing patient and scene characteristics in an overdose event by EMS providers (Sumner et al, 2016). EMS providers are often the first line of contact with individuals at particularly high risk for opioid related morbidity and mortality making them uniquely situated to create critical linkages to treatment and supports for individuals with OUD.

III. Research Design

A review of literature provided background information that clarifies the roles of providers and barriers they face in prescribing MAT for OUD. Although the primary care setting serves as good place to implement OUD management, patients who are misusing opioids sometime require emergency care from the emergency department or from first responders such as EMS providers. The aim of this study is to identify the challenges these different provider types encounter in the management of patients with OUD and the service/treatment gaps in York County.

This capstone used data collected as part of the Rural York County Opioid Planning Project to address the following research questions:

1. What treatment gaps exist in York County?
2. What are the challenges/barriers providers working in different clinical setting face in treating OUD patients?

Location of Study

The location of the study is in York County which has the third highest rate of overdose deaths in Maine. Data was gathered through providers focus groups which was conducted in five different locations and an online survey sent to EMS providers working in York County.

Study Population

Participants in this study included medical providers currently working in organizations located in York County Maine. The York consortium representatives identified providers within their organization to participate in the focus groups and online survey.

Recruitment email that provided information about the purpose of the study was sent to each participant. For the online survey, the recruitment email contained a link that led to the survey.

Protection of Human Subjects

A request for determination of research involving human subjects was sent to the office of Research Integrity and Outreach at USM with background information about this study and subsequently an IRB approval was obtained. In addition, before conducting each survey, participants were informed about the purpose of the study and that participating was voluntary after which an informed consent was obtained. Those participating in the focus group were additionally informed that their responses will be recorded. Those who proceeded with the focus group or online survey were believed to have given an informed consent. Both survey responses were deidentified by removing all identifying properties in the reports generated from analysis of the data

Data Collection:

This study used both qualitative and quantitative data collected as part of the Rural York County Opioid Planning Project funded by HRSA. Data collection occurred from January 2019 to March of 2019. Data collection was done through regional providers' focus groups, online survey administered and using publicly available data sources.

1. Secondary Data: Existing data, including publicly available data from SAMHSA, CDC and US Census Bureau was used to examine prevalence of OUD, provider capacity as well as treatment and recovery services in York County.

2. **Providers Focus Group:** Six regional focus groups with providers in York County was conducted with providers in Biddeford, Kennebunk, Sanford, Springvale, Sacopee Valley and Waterboro. Each lasted approximately 45 minutes and elicited responses from providers on key topics of interest such as: managing OUD patients; barriers and facilitators to implementing comprehensive prevention and treatment programs for OUD; and gaps in services of OUD management (See Appendix 2 for focus group guide).
3. **EMS Online Survey:** This was administered online using the Snap Survey Tool. This survey examined key domains including: opioid knowledge and attitudes, stigma, training needs, barriers to managing the opioid crisis, and initiative fatigue among first responders. It included open-ended response questions with a 5-point Likert- type scale ranging from (1) “strongly agree” to (5) “strongly disagree” as end points and a middle score (3) “neither agree nor disagree.” Low scores denoted positive conformity to a question whereas a high score was associated with negative conformity (See Appendix 3 for EMS survey).

Data Analysis

Both quantitative and qualitative data were analyzed accordingly.

Quantitative Data Analysis: Data from the Snap survey tool was exported into SPSS software. Descriptive statistics was then used to analyze the frequency and percentage to determine the demographic distribution and response to each question.

Qualitative Data Analysis: Qualitative data from transcripts of providers’ focus groups and open-ended responses from EMS surveys was systematically coded to derive high level themes. Emerging themes and constructs that relate to this study such as barriers and treatment gaps was compiled.

Target Audience:

The key audience is the Rural York County Planning Consortium members (i.e. representatives from Southern Maine Health Care (SMHC), Nason Health Care, Maine Behavioral Healthcare (MBH), Frannie Peabody Center (FPC), North East Mobile Health Services (NEMHS) and the Kennebunk Police Department, (KPD). This capstone will inform their current work on expanding access to MAT and increasing efficiency, integration and coordination among and between service providers. Also, the results of the findings will be relevant to a broader public health and health systems audience who are trying to address the current Opioid crisis.

Limitation of Study Design:

The methods and data analytic strategies used to examine provider perspectives varied between first responders and providers working in healthcare centers. While the qualitative data from the focus group generated responses from providers based on open ended semi-structured interview questions, the online survey of EMS providers contained largely Likert scale responses with some opportunities for more in-depth responses through open-ended questions. While this is a limitation of the study, both data collection strategies focused on gathering data on similar domains and this was the most feasible way to get data from busy EMS providers. Also, all data was self-reported and collected from individuals who agreed to participate in the study. This means that their responses may not be generalizable to the broader group of first responders and providers in York County.

IV. Results

The data analysis resulted in identification of one primary theme reflecting the gaps in treatment: essential treatment availability and four themes reflecting the challenges to managing OUD in York County: access to care, inadequate workforce, stigma and patients engagement. Also, demographic information describing the survey participants was included.

Demographics

PCP: Focus group was conducted in four different primary care setting with 35 providers participating in them. The setting included 2 primary care clinics, 1 walk-in clinic and 1 behavioral health clinic in York County Maine. Among the participants, only 6 were waived to prescribe MAT with only 3 prescribing to patients.

ED Providers: One focus group was conducted for ED providers and had a total of 5 participants including physicians (3) and Physician Assistant (2). None of the providers acknowledged they are waived to prescribe MAT to patients.

EMS Providers: Fifteen EMS providers completed the online survey. Majority of the respondents were male (80%), have been employed for over 20 years (33%) and have EMS license level of Paramedics (53%).

See table 1 below.

Table 1: Demographic information of providers

Demographics	EMS Provider	PCP	ED Provider
# of participants	15 respondents	35 participants	5 participants
Gender	M = 80% F = 20%	Not recorded	Not recorded
License type	Paramedics= 53% Advanced EMT=27% EMT Basic=20%	Physicians= 28% NP=20% BH=31% PA=5% RN=3% Admin Staff = 11%	ED Physicians = 60% PA= 40%
# waived	Trained to administer Naloxone	6 waived with only 3 prescribing	None

Findings

1. Treatment Gaps: Essential Treatment Availability

Overall responses from all providers' type show that most essential treatment services are lacking in York County. Respondents identified four subthemes which includes: lack of knowledge of how to access resources, detox centers, inadequate treatment services in primary care settings and service shortage as gaps in treatment.

Lack of Knowledge of Resources

While 40% of EMS providers reported they were aware of treatment resources, both PCP and ED providers were uncertain about resources for their patients as a provider shared: *"The biggest issue for me is just knowing how to access the correct resources."* In addition to this, all provider types mentioned that patients are not adequately followed up due to the lack collaboration among providers in the community.

A provider noted in a statement that: *“I thought about this a couple years ago but within our community we didn't have adequate follow-up. I didn't have any resources within my community to connect people with treatment beyond MAT. At least a couple of years ago and until now, I didn't feel my patients would have the therapy that they needed. There was no point in me prescribing Suboxone to somebody if they were not going to be followed up in a responsible way, I felt. Then I just haven't done it since then. I don't feel there is a really big need for me to do that right now. I don't know how much it would benefit my patients to put that extra time in.”*

Most providers noted that since they are unaware of treatment resources and do not get feedback for patients they refer for mental health care, it affects their clinical decision when managing OUD patients.

Inadequate Treatment Services in Primary Care

PCP providers noted that in most primary care settings, OUD treatment services are either not offered or are inadequate as described by a provider: *“The fact that we don't offer it in primary care, that's a gap. Or it's not readily available in primary care as it could be. I haven't seen enough patients to know.”* This inadequacy in the primary setting can also be attributed to the limited number of waived prescribers in York County.

Service Shortage

Similar responses among all provider type mentioned service shortage as a current gap within the service systems that is not yet addressed. Services such as mental and behavioral health services, detox centers and pharmacies to fill prescriptions were among notable services lacking in York County.

The closest detox center to York County is far away in Portland and is not easily accessible for patients. One provider noted: *“The biggest gap is the only one that does it is Milestone in Portland and almost none of my patients can get a ride there.”* In addition to this the PCPs noted the importance of having community wrap around services that is needed as a preventive service for pain management.

2. Challenges: Access to Care:

Majority of EMS providers (66%) reported that there were few barriers for people trying to access treatment for OUD unlike the PCP and ED Providers who believed York County has barriers that affect patients’ access to treatment. The high-level sub-themes derived from their responses include: transportation and financial barrier (prescription cost and insurance coverage).

Transportation:

Transportation is needed for patients to travel to treatment site, unfortunately in York County there are no adequate transportation system and most patient do not have cars making it difficult for them to get to the clinic. This was a problem echoed by both PCP and ED provider as a major barrier. A provider summarized a patient’s complaint: *“My friend had a car today, so this is how I got here.” There’s so many barriers out here, like you said, just how rural we are. How do you get there? Pay for the gas to get there?”* Providers noted that they are time crunched and will prefer patients arriving on time for their appointments. The lack of transportation and distance of treatment centers discourages providers from referring or managing such patients.

Financial Barrier:

Both PCP and ED providers reported that the high cost of medication and lack of insurance coverage was a major challenge for patients to access treatment. A statement that summarized this by a provider was thus: *“Yeah, anyone can come here regardless of insurance or not, but they can't always pay for the medication.”* And provider another noted: *“Seeing a counselor, provider to prescribe, then the cost of medication itself is expensive. That is a big one”* Providers also noted that they are unaware of the cost or insurance coverage for OUD treatment and cannot provide such information to patients. Inability of patients to pay for these medications influences their adherence to treatment.

3. Challenges: Stigma

All provider types acknowledged that stigma is associated with drug use and can affect how care is rendered in different care setting and how people are treated in the community. For example, patients living in Halfway houses can lose their housing because taking MAT is not considered soberness. A provider reported this about a patient who was at the verge of losing housing: *“One thing that recently came up for me was I have a patient living in a halfway house and they wouldn't allow him to take Suboxone while he was living in a halfway house. Between myself and his social worker we were able to convince the person running the halfway house that if he didn't do this he was going to use. The person running the halfway house felt that wasn't a good alternative.”* Also, stigma among providers who believe that the patients are intentionally harming themselves was summarized thus: *“there are still pockets of stigma of they're doing this to themselves and why do we keep resuscitating them when they come in in respiratory cardiac arrest. There is still some of that out there and it's a constant push to try to overcome it.”*

Overall, providers believed that education about OUD can help to eliminate stigma in healthcare settings and the community.

4. Challenges: Inadequate Workforce Capacity

Most providers mentioned that their workforce capacity was not enough in providing necessary treatment for OUD. Two subthemes cited were: staff shortage and training needs.

Staff Shortage

Although EMS providers noted they were adequately staffed, they reported being fatigued from the large volume of overdose related calls. Meanwhile, both PCP and ED providers mentioned that given the amount of time needed to see patients coupled with the limited number of dedicated staffs such as case managers, nurses, and recovery coaches it was difficult to manage OUD. A provider summarized this by saying: *“In most places some people wear many hats...and there is just little time to focus on treating MAT patients.”* The providers went further highlighting the importance of having dedicated staff who can help patients to find resources for treatment and follow up with them to ensure they are getting the care they need.

Training Needs

While majority of EMS providers (87%) reported that they are adequately trained to identify and manage overdose symptoms, majority of PCP and ED providers mentioned they need more training on how to manage OUD, how to get waived and information about referral resources in the community.

An EMS provider stated: *“we need very little training, we have been bombarded by this...we know how to manage overdose patients. We need more resources.”* In addition, the PCP and ED providers who mentioned they need more training noted that they will prefer training that are not time consuming and is customized to fit their busy schedules. The long training hours required for getting waived was a deterrent for those who are not waived.

5. Challenges: Patient Engagement in Treatments

Patient’s resistance or denial of OUD condition was a notable response from all provider types. Among the EMS providers, they noted that people do not call 911 during an emergency and most times refuse administration of Narcan. As an EMS provider noted *“...the challenge when Narcan is given and the patient then has the right to sign off even though in my opinion they are not competent as the drug is still in their system, but according to MEMS and the on line medical control physicians, they have that right as they technically are alert and oriented at that time although there is always the potential that the Narcan will wear off (due to the short half-life”* Similarly, PCP noted that most OUD patients deny their conditions, and some do not keep to their appointments which they believed might be due to the time of the day for their appointment conflicting with their work or child care. Furthermore, an ED provider gave this summary of the difficulty in keeping patients engaged: *“It takes a commitment. That’s huge. It’s just very hard to keep them engaged in the treatment.”* According to the providers, patients need support from their community and families in order to continue treatment. Most patients who do not have these sometimes relapse. Although this is beyond the providers intervention, they believe that eliminating environmental triggers such as street drugs will be helpful for engaging patients.

V. Discussion

The recent rise in opioid related deaths in many rural areas compared to urban areas has become a major public health concern (Mack et al, 2017). This is the case in rural York County where increase in overdose deaths has been reported in the past years. Also, given that it is designated as a health care provider shortage area calls for quick intervention. This study revealed the gaps in treatment resources and challenges providers working in different clinical setting in York County face in managing OUD. Among the responses gathered from all provider types, it is apparent that lack of essential treatment resources, access to care, stigma, inadequate workforce capacity and patient engagement in treatment are major barriers to managing OUD.

Similar responses among all providers that highlight major concerns that must be addressed in order to improve OUD treatment in York County include: stigma, inadequate workforce capacity, patients' engagement and limited treatment resources. Like York County, most rural areas do not have adequate workforce, mental and behavioral services (RHlhub, 2019) and detox centers that are close by (Lenardson, et al 2009). Also, stigma was a notable barrier across all provider types. Stigma emanates from the language used for addiction, set policies, treatment setting (Wakeman & Rich, 2018), belief that addiction is a willful choice, and the separation of OUD treatment from the rest of the medical system (Olsen, et al 2014). However, providers believed that this can be overcome by educating providers and community members about the causes of OUD. Furthermore, engaging patients in treatment was a major barrier identified across all provider types. Patient refusal to be treated either during an overdose emergency or in an office setting was attributed to state laws and no shows. This is a major concern in addressing the high rate of overdose deaths occurring in the entire state.

Also, there was notable difference in the training needs reported by providers. While majority of EMS providers reported they have enough training and knowledge of OUD resources within the community, most PCP and ED providers had major concerns about their lack of knowledge of both prescription cost and treatment resources within the community. This was a major finding of this study as it highlights an immediate need to inform providers about OUD resources that are located around their practice area. Another significant difference in providers response was their answers to the barriers people face in accessing treatment. While more than half of EMS providers reported that there were few barriers to accessing treatment, both PCP and ED providers overwhelmingly noted that inadequate transportation and financial constraints contributed to their inability to manage patients with OUD.

Overall responses among the ED providers reveal that they are interested in engaging OUD patients' in treatments but will require more information about OUD resources within the community and how to get waived. This is different from a study that identified ED Providers' perception of buprenorphine as a substitution to another drug as a barrier to prescribing in ED setting (Cisewski et al, 2018). Also, while this study revealed that EMS Providers in York County are adequately trained to identify and manage an overdose situation, a different study revealed that EMS Providers inability to identify an overdose, was a major barrier to managing overdose patients (Sumner et al, 2016). However, the barriers identified by the PCP in this study such as inadequate staffing, training needs, stigma (Storholm et al 2017, Jones et al 2019 and Haffajee et al 2018) lack of mental health services (Andrilla, Coulthard and Patterson, 2018), and time constraints from seeing patients (Huhn & Dunn, 2017) were similar finding in other primary care setting.

VI. Recommendations

Based on responses from providers, the following suggestion will help alleviate the identified provider level challenges in York County:

- **Trainings:** tailored trainings that fits into providers busy schedule is recommended. These training can be delivered in different format including online or in person training.
- **Staffing:** Recruitment and retention of dedicated staff such as case managers and recovery coaches and training of existing staff on OUD management can help bridge the staffing shortage. Also, these staff can work with providers and patients to provide relevant information about accessible treatments.
- **Stigma:** Educating providers, staff and community members about OUD causes and dangers of stigma for patients
- **Improve collaboration :** Most providers noted inadequate follow up and lack of knowledge of OUD resources as a barrier. This can be improved by increasing collaboration across different organizations.
- **Increase access to OUD treatment:** Incentivizing more providers to get waived and prescribe MAT is a crucial solution for York County. Having more waived prescribers and behavioral/mental providers would also reduce the travel time for patients to access treatment within the community.
- **Monitoring:** Tracking the progress of established OUD programs such as the HUB and Spoke model to ensure continuous performance improvement is crucial. Also, maintaining proper implementation of the prescription monitoring program to ensure adherence to evidence-based prescription practice in the ED and Primary care settings.

VII. Conclusion

This study identified several factors that needs to be addressed in order to decrease the high rate of overdose deaths in York County. As different strategies to curb down the prevalence of overdose deaths emerge, this study can inform the ongoing efforts of increasing efficiency and collaboration among providers and expanding MAT for OUD treatment. Also, it highlights the need to improve treatment resources, staff recruitment and provider training particularly ED and PCP. As well, all providers will benefit by learning how to eliminate stigma that arise during encounter with patients.

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Appendix 1

Capstone Integration with Muskie School of Public Service MPH Program

MPH Competency	Relevant Course Work	Capstone Application
<ul style="list-style-type: none"> • Critically evaluate epidemiological studies and literature • Identify organizational and community concerns, assets and deficit. • Apply evidence-based principles and knowledge to decision making • Use data to inform public health decision making 	MPH 650 Applied Public Health Research and Evaluation	<ul style="list-style-type: none"> • Literature reviews • Focus group and survey • In making recommendations • Data analysis
<ul style="list-style-type: none"> • Describe determinants of health, incorporate evidence and tools to inform public health practice 	MPH 565 Social and Behavioral Health	<ul style="list-style-type: none"> • Literature reviews and recommendations • Secondary data analysis
<ul style="list-style-type: none"> • Statistical analysis and interpretation of results 	MPH 435/535 Introduction to Epidemiological Research and MPH 545 Applied Biostatistical Analysis	<ul style="list-style-type: none"> • Study design • Data analysis • Interpretation of survey and focus group results
<ul style="list-style-type: none"> • Develop work plan and timeline 	MPH 630 Health Planning and Marketing	Preparation of workplan and time line
<ul style="list-style-type: none"> • Demonstrate written and oral skills with diverse audience 	Capstone	Capstone draft and presentation

Appendix 2

Provider Focus Group Questionnaire

Rural York County Opioid Planning Project Provider Interview Protocol

Thank you for agreeing to be interviewed. I appreciate your time. Before I begin, I have a consent statement that I need to read to you.

Introduction:

As you may know, York County Consortium has contracted with Muskie School of Public Service at the University of Southern Maine to help the group gather information to inform their Rural York County Opioid Planning Project. We are eliciting feedback from providers on key topics of interest such: as the use and uptake of harm reduction strategies; managing vulnerable populations; barriers and facilitators to implementing comprehensive prevention and treatment programs for OUD; how to promote meaningful clinical-community linkages; education and training needs; and strategies for enhancing care coordination across sectors to address OUD. As part of this effort, the Muskie School is interviewing providers in York County to help inform the Consortium planning process. We appreciate your time and input.

Participation:

This interview will take approximately 45 minutes of your time. Your participation is voluntary. No names or identifying information will be included in the summary report we plan to prepare.

Risks and Benefits of Participation:

There are no anticipated risks with this interview.

Questions:

Do you have any questions before we get started?

We record these conversations for note taking purposes. Is it okay with you if I record our conversation?

Okay, let's begin...

Provider Focus Group Questionnaire

Section #1: General Information

The first few questions focus on some general information about you:

1. What is your current role within your organization? (SIGN IN SHEET)
2. Are you certified to provide Medication Assisted Treatment? (SIGN IN SHEET)
 - Probes:
 - If not do you plan to become certified? (SIGN IN SHEET)
 - If so are you currently prescribing? (SIGN IN SHEET)
 - If yes, how many patients? (SIGN IN SHEET)
- 2a. If you indicated on the sign on sheet that you are not certified to prescribe MAT, what barriers have kept you from taking the X waiver training and getting certified? (personal preference, time constraints, organizational structure)
3. Whether or not you are certified, what has been your training in engaging with and/or treating persons with opioid use disorders?

Section #2: Treatment Services

Now I'd like to spend a little time learning more about current treatment options in York County and gaps in services.

4. Can you briefly describe what treatment options are currently available to address opioid use disorder in rural York County?
5. What treatment options are currently not available or lacking in rural York County?
 - Probes:
 - Residential, Outpatient (hub and spoke), Inpatient detox, OBT, Intensive outpatient programming (IOP)/PH
6. In your opinion, what factors (positive or negative) influence the success of opioid use disorder treatment programs/services in rural York County?
 - Probes:
 - Internal (e.g., organizational culture, program design/policies, ease of access?)
 - External (e.g., geography, reimbursement policies?)
 - Individual (e.g., leadership support? provider attitudes?)
7. Are there specific challenges associated with implementing and treatment options for opioid use disorders in rural York County?
 - Probes:
 - What are those?
 - Do these impact clients' treatment outcomes?
 - What strategies have you used to overcome these obstacles?

Appendix 3

EMS Online Survey Questionnaire

- *I am confident in how to recognize an apparent drug overdose as it differs from other medical emergencies, such as a diabetic coma.*
- *I am going to need more training before I would feel confident to help someone who had overdosed.*
- *There are few barriers for people trying to access treatment for opioid use disorder.*
- *In my work, I am aware of community resources for people struggling with opioid use disorder.*
- What barriers existing for EMS staff in responding to and managing individuals with opioid use disorder?
- What resources do EMS staff and organizations need to effectively address opioid use disorder in your community?
- What types of education and training on opioid use disorder are needed for EMS staff?