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Somewhere to Go: Implementing Medication-Based Treatment for Opioid Use Disorders in Rural Maryland and beyond

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Abstract

Treatment for opioid use disorders is highly effective yet unavailable in many rural areas. “Somewhere to Go: Ensuring Access to Medication-Assisted Treatment in Rural Maryland” is a Robert Wood Johnson Funded Clinical Scholars project intended to expand the use of tele-health medication-based treatment for opioid use disorders services directly to rural areas in need. We demonstrated that a University-based substance use treatment team can successfully collaborate with a geographically distant rural substance use treatment clinic to provide medication-based treatment for opioid use disorders using a HIPPA compliant telehealth strategy. We provide an overview of the implementation strategies our team used to expand overall access in different locales throughout the State of Maryland and beyond. We describe implementation results of a tele-health medication-based treatment program for opioid use disorders that focuses on implementation successes and how to identify and overcome implementation challenges and barriers. Implementation of a telemedicine approach can be challenging, but careful consideration and forethought can map a successful path to program development, operation and sustainability.

Keywords: Medication assisted treatment MAT, Medication based treatment, Opioid Use Disorder OUD, rural, telemedicine, telehealth, video conferencing

1. Introduction

Rural America is impacted disproportionately by illicit and prescription opioid misuse [1–3]. Opioids include heroin and prescription opioid drugs such as oxycodone, hydrocodone, hydromorphone, methadone, tramadol, codeine and fentanyl. Prior to the 1990s, opioid misuse was predominantly an urban phenomenon centered on the use of heroin. A collective push in the mid-1990’s encouraged an increase in the prescribing of opioids for the treatment of non-malignant pain. This included the American Pain Society endorsement of the subjective pain score as the “fifth vital sign” [4]. Furthermore, patient advocacy groups and pain specialists highlighted the need to aggressively “treat an epidemic” of undertreated pain.

Concomitantly, pharmaceutical companies initiated extensive marketing campaigns advocating for the use of long acting opioids such as OxyContin (Purdue Pharma, Stamford, CT) to treat chronic non-malignant pain. These campaigns specifically targeted primary care physicians, the most frequent prescribers of opioid pain medications. As a result, opioid prescribing in the United States skyrocketed with a 300 percent increase in opioid prescriptions between 1991 and 2009 [5]. By 2012, clinicians wrote 259 million opioid prescriptions, enough to distribute one bottle of opiates to each adult in the USA [6]. A direct correlation between the quantities of opioids prescribed and the morbidity and mortality associated with these medications is clear [7]. Since 1999, overdose deaths from opioids have quadrupled [8].

The devastating consequences of opioid misuse is particularly evident in rural communities. For example, the per capita overdose rates have been higher in rural areas, as compared to urban areas, since 2006 [9]. Factors hypothesized to contribute to the rise in opioid misuse in rural areas include: (1) an older population with more chronic pain; (2) increased occupational injury from heavy labor jobs; (3) cultural acceptance of the use of opioids to keep individuals working in heavy-labor occupations; (4) lack of economic opportunity resulting in unemployment and financial hardship; and (5) more extensive social and family networks which are the predominant networks for the distribution of prescription opioids [1, 10].

Treatment for opioid use disorders is highly effective [11, 12]. Medication-based treatment for opioid use disorders is the term used to describe a series of evidence-based treatments for opioid use disorders (OUD), which includes treatment with regulated opiate medication in combination with psychosocial interventions. Two of the medications approved by the FDA for the treatment of opioid use disorder are methadone and buprenorphine. Both medications have demonstrated greater efficacy than counseling alone in decreasing opioid use, increasing retention in substance abuse treatment, and significantly decreasing the risk of overdose and death [13–15]. A recent meta-analysis confirmed that patients on methadone maintenance therapy for opioid use disorder had a significantly decreased risk of death during treatment than after cessation; the same analysis suggested buprenorphine is similarly effective [16].

There are numerous barriers to accessing medication-based treatment for opioid use disorders in rural areas. For example, methadone maintenance clinics are overwhelmingly located in urban areas, are highly regulated by the federal government, and require daily attendance during the early phases of treatment [17, 18]. Clearly, residents in rural areas with opioid use disorders may lack the means of transportation to consistently attend methadone maintenance programs. Although buprenorphine treatment can be delivered in a less regulated way, which may overcome some of the access issues historically associated with methadone treatment, 60 percent of all rural counties lack a waived provider and only two percent of buprenorphine-waived physicians in the US practice in small and remote rural counties [19, 20].

2. Wicked problem impact project (WPIP) description

Rural communities in America are disproportionately affected by the opioid epidemic, a situation reflected in the state of Maryland. From 2010 to 2015, deaths related to prescription and non-prescription opiate overdose in the state nearly tripled, with substantial increases occurring in rural communities in Western Maryland and the Eastern Shore in particular. Although Medication-Assisted Treatment (MAT), which includes the use of medications (e.g. Methadone or Buprenorphine) with psychosocial interventions, is a lifesaving, evidence-based treatment for opioid use disorders, there are numerous barriers to accessing MAT in

rural areas of Maryland. Factors affecting the rural population mirror those listed above for the larger body of the USA.

Our central project goal is to increase access to medication-assisted treatment to rural communities in Maryland using the telehealth model piloted in an existing treatment program (Wells House) located in Western Maryland. In order to advance this central goal, a small, diverse, multi-disciplinary, clinical team (Team JEMS) was created. Our primary team is comprised of a clinical social worker, nurse practitioner, and two addiction psychiatrists possessing a wealth of experience working in multi-disciplinary substance use settings. As our team and project have evolved, so has the necessity of cultivating relationships with both internal and external program stakeholders to help champion the cause of expanding access to medication-assisted treatment.

Providing increased access to evidenced-based, telehealth services to address the opioid crisis saves lives. “Somewhere to Go: Ensuring Access to Medication Assisted Treatment in Rural Maryland” is a Robert Wood Johnson Foundation-funded Clinical Scholars project intended to expand the use of telehealth medication-based treatment for opioid use disorders services directly to rural areas in need. Previous pilot data demonstrated that a University-based substance use treatment team can successfully collaborate with a geographically distant rural substance use treatment clinic to provide medication-based treatment for opioid use disorders using a HIPPA-compliant telehealth strategy. A chart review of over 150 people receiving substance abuse services demonstrated that approximately 60% were still in treatment at 3 months with 94% of them being free of opioid use [21]. The goal of the “Somewhere to Go” project was to address the significant health disparities in a rural Maryland community by initiating telemedicine-based opiate addiction treatment services in an area that had never previously engaged in telemedicine-based treatment.

3. Methods

Prior to 2015, the retirement of a rural waived medical provider resulted in the loss of patient access to medication-based treatment for opioid use disorders across an entire region. In 2015, the University of Maryland School of Medicine’s Division of Addiction Research and Treatment agreed to establish a pilot program to provide medication-based treatment for opioid use disorders using a telemedicine format for a rural Western Maryland Intensive Outpatient Treatment Program (IOP). A series of virtual and in-person meetings that included the leadership from both the Division of Addiction Treatment and Research and the rural, Western Maryland IOP occurred. The early meetings focused on ensuring organizational compatibility and establishing the telemedicine programmatic policies and procedures. These meetings resulted in formalized Standard Operating Procedures (SOP) that addressed the following areas: 1) informed consent, 2) privacy/HIPAA compliance, 3) video conferencing security, 4) initiation of telemedicine consults, 5) patient scheduling, 6) urine toxicology testing, and 7) medical records. Establishment of the agreement allowed for the forming of the new clinic to treat rural patients struggling with addiction disorders.

Program coordinators at both the University of Maryland and IOP sites began regular meetings to facilitate communication, arrange clinical schedules, and solve implementation problems efficiently. The program coordinators created two blocks of two hours for direct patient care appointments (i.e., 45-minute time slots for new evaluations and 20-minute follow-up appointments). At the initial telehealth visit, a full diagnostic patient evaluation occurred. Based on this assessment, the University

of Maryland physician provided a differential diagnosis and treatment plan for the patient including the use of buprenorphine when indicated. At the end of each appointment, the physician entered clinical documentation on the University of Maryland electronic medical record that was electronically transferred to the IOP site.

The IOP coordinator made all follow-up appointments. The IOP program coordinator screened patients, coordinated the appointment schedules and forwarded appropriate clinical information (e.g., clinical notes and results of urine toxicology screens) to the University of Maryland program coordinator prior to each telehealth clinical encounter. An evaluation plan consisting of in-depth interviews with key stakeholders focusing on barriers and challenges occurred after about one year of implementation. Meetings with stakeholders are held approximately twice a year with the IOP program staff to discuss program operational and clinical issues.

The team also pursued additional funding to support and advance our telemedicine-based intervention and expand the number of rural patients who could be served.

4. Results

Since the inception of the telehealth program in August 2015, over 500 patients have been treated at the initial Western Maryland IOP site and at any one time, approximately 100 patients are in active treatment. At the time of the writing of this manuscript the telehealth program had been in operation for 4 ½ years. A chart review of the first 175 patients treated in the program demonstrated an over 50 percent retention rate at 3 months. Of those patients retained in the program for three months only 6 percent were actively using illicit opioids. While the IOP program incurred a small financial shortfall in supporting physician costs for the medication-based tele initiative, it made up for it by being able to recruit and retain patients in their IOP counseling program.

In 2018, our team was fortunate enough to secure additional funding of \$210,000 via the CareFirst grant to expand the telehealth model to two underserved rural counties (Talbot, Dorchester) on the mid-shore of Maryland.

4.1 Stakeholder interviews: barriers and challenges to implementation

Stakeholder interviews provided insights into implementation challenges. Challenges fell into four broad categories: documentation, acceptance of medication-based treatment for opioid use disorders by IOP staff, and billing and regulatory issues. As each site contracted with different electronic medical record vendors, the primary technologic challenge was the de-novo need to design and create functional documentation at each site. Although this challenge was easy to overcome, there was an unexpected opportunity and financial cost for each site. In addition, integration of the two electronic medical records with the goal of improving communication between the two clinical staffs is an ongoing process. A more pressing challenge was the opposition of some IOP staff to use medication-based treatment for opioid use disorders as a “first-line” treatment approach. Many of the counselors in the program were trained and adhered to an abstinence model of care where the use of opioid agonist medication is viewed as replacing one addiction for another. To overcome this challenge, clinicians from the University of Maryland conducted several in-service trainings for the IOP staff. The IOP staff were also encouraged by their leadership to attend continuing education classes focused on

medication-based treatment for opioid use disorders. Over time, these interventions lead to a “normalization” of the use of medication-assisted treatment at the IOP site. Billing for the services was another challenge. Although a formal business plan was not agreed to at the beginning of the implementation process, over time the two sites came together to create a “workable” billing arrangement. The result was for the IOP program to contract with the University for physician services and then the University independently billed insurance and collected revenue that was remitted to the IOP to cover costs. Finally, regulatory concerns associated with the Ryan Haight Act were an early implementation concern. The 2008 law, named after a California teenager who overdosed on opioids bought online without being formally evaluated by a physician, may in theory limit opportunities for providers to provide telemedicine for medication-based treatment for opioid use disorders. Engagement with the DEA in Maryland resulted in approval for a DEA level of care at the IOP site that allowed for patients to be seen via a telehealth interface and prescribed buprenorphine without a face-to-face encounter.

5. Discussion

5.1 Recommendations for success for other rural telemedicine initiatives

Through our experience we have found that nine areas are crucial to address when forming distance-based partnerships to provide care for addiction treatment using a telemedicine-based approach. These nine areas requiring forethought and planning include: creating the team; lead with values; be responsive and responsible; pilot policies and procedures; develop appointment structures; establish the role of substance use counselor; establish the role of the medication-based treatment for opioid use disorders prescribing clinician; ensure medication prescription is safe, reliable and compliant; and create monitoring and evaluation systems.

5.1.1 *Creating the team*

Developing a nimble leadership structure with the capacity to rapidly assimilate and share information is critical to successful implementation. This is even more important when two or more organizations who may be geographically quite distant are engaging in partnership. Taking the time to build a culture of leadership that is responsible, responsive, and value-based is essential for success.

5.1.2 *Lead with values*

Implementation of any new project rests on a foundation of shared goals and values. In our experience, taking the time to describe these shared set of values is essential to a successful project implementation. This is especially true when implementing a tele-health medication-assisted treatment program where two or more organizations may be working together for the first time. For example, “teamwork” is often a shared value that is fundamental to getting a project off the ground. Yet, if there is no consensus about the definition of “teamwork,” unintended misunderstanding based on differing organizational cultures can quickly undermine the implementation effort. To remedy this, we recommend organizational leadership discuss their organizations’ shared set of values with each other prior to project implementation. Values such as Teamwork; Excellence; Compassion; Integrity and Professionalism are good places to start.

5.1.3 Be responsive and responsible

Using shared values can assist in shaping and defining key leadership roles and responsibilities. Defining these roles early in the implementation process can significantly reduce miscommunication and allow for more rapid organizational integration. Additionally, creating a culture of shared responsibility that prioritizes responsiveness is extremely important. Accountability is key. Regular meetings, whether in-person or virtual, that are task oriented, agenda-driven, and based on shared values can guide and drive the implementation process.

5.1.4 Pilot policies and procedures

Prior to the initiation of clinical operations, the team's primary goal is to establish programmatic policies and procedures. Formalized Standard Operating Procedures (SOP) need to address the following areas: 1) informed consent, 2) privacy/HIPAA compliance, 3) video conferencing security, 4) initiation of telemedicine consults, 5) patient scheduling, 6) urine toxicology testing, and 7) medical records. Standardized templates for documentation of the initial evaluation and follow-up visits is highly recommended.

5.1.5 Develop appointment structures

In our experience, appointment structures are often organizationally dependent. However, we recommend starting with two blocks of two-hour appointments. These appointment slots are allocated for direct patient care, with 45-minute time slots for new evaluations and 20-minute follow-up appointments.

5.1.6 Establish the role of substance use Counselor

Substance use counselors at the distant clinic are the fulcrum of the intervention. Their job is to refer people who meet criteria for opioid use disorder and who demonstrate interest in medication-based treatment for opioid use disorders. They are responsible for scheduling appointments with the off-site medication-based treatment for opioid use disorders prescribing clinician. They are also the on-site provider responsible for ensuring evidence-based substance use counseling is in place and ensuring that data regarding substance use treatment outcomes (i.e., urine toxicological screening) are appropriately maintained and documented.

5.1.7 Establish the role of the medication-based treatment for opioid use disorders prescribing clinician

The role of the medication-based treatment for opioid use disorders prescribing clinician is to complete a full diagnostic patient evaluation including medical, psychiatric and substance abuse histories. Using information obtained through this meeting and the intake notes from onsite counselors, the clinician creates a differential diagnosis and treatment plan for the patient including the use of buprenorphine when indicated. Notes and updated medication logs from each encounter are placed in charts at both the originating and distant site. The prescribing clinician continues treatment through follow-up appointments for each patient.

5.1.8 Ensure medication prescription is safe, reliable and compliant

Each site will need to be compliant with state and federal regulations. We strongly advise meeting with officers from the local DEA office as well as State authorities prior to implementation. These agencies can provide critical advice regarding prescribing of regulated medication, use of HIPPA compliant technologies and ensuring that all providers are legally able to provide substance use care.

5.1.9 Create monitoring and evaluation systems

It is important to create an evaluation plan that is consistent with the goals of the implementation. One strategy is to use both chart review and informant interviews of clinicians, patients, and their families to provide a complementary approach to understanding the challenges and success of the goals of the project.

The effectiveness of telemedicine treatment approaches among diverse populations and clinical contexts, including rural populations, is well established. Expanding addiction treatment for rural patients via telemedicine is an important next step to ensure provision of accessible, evidence-based treatments where they are most in need. During the last 2 years, the University of Maryland School of Medicine's Division of Addiction Research and Treatment used the lessons learned from our original pilot program to implement several additional telemedicine sites throughout the State of Maryland. These programs are servicing several rural areas throughout the State of Maryland with good outcomes. Although issues pertaining to the implementation of a telemedicine program are extremely important and were the focus of this chapter, there are equally important issues pertaining to sustainability. The viability of our telemedicine program is primarily attributable to the State of Maryland Medicaid program's decision to allow both sites to be eligible for reimbursement. In our case, the University of Maryland School of Medicine's Division of Addiction Research and Treatment took on responsibility for physician billing and passed collections onto the remote site. Another sustainability challenge that we encountered was transitioning patients to the community once stabilized on medication-based treatment for opioid use disorders. In keeping with the hub-and-spoke model of medication-based treatment for opioid use disorders administration, we collaborated with the rural county's local health department leadership to identify providers in the community willing to continue prescriptions for patients already stabilized. This approach proved highly successful.

6. Conclusion

Our findings suggest that treatment with buprenorphine delivered by telemedicine to patients with opioid use disorders in a rural drug treatment program is effective. Implementation of a telemedicine approach can be challenging, but careful consideration and forethought can map a successful path to program development, operation and sustainability. Nevertheless, initiating a new clinic and addressing areas of health disparity where there are no other treatment options exist requires thoughtful planning and careful implementation on the part of the healthcare team. Despite the fact that an onsite clinic had previously served the rural area, the new policies and procedures for the telemedicine-based treatment plan still encountered obstacles that needed to be addressed, including local staff acceptance of new protocols. Given the importance of the issue of treating addictive disorders in some of the hardest hit and underserved areas, it is vital to address barriers that exist even at the policy level, such as with the Ryan Haight Act and working with the DEA for policy change and program approval. With collaboration and a team-based approach challenges such

as these are manageable and should not deter a committed group from engaging in a similar venture to ameliorate health disparities in rural areas. Below are additional gems of insight the JEMS team discovered as they implemented their “Somewhere to Go” project for the Clinical Scholars National Leadership Institute.

7. Leader learning in the clinical scholars program

The JEMS team faced a significant set of challenges during their Fellowship experience and in the implementation of their Wicked Problem Impact Project. First, the relocation of a team member required the team to negotiate a tangible change which had direct impacts on team dynamics. Early investing in team commitment and functioning established a sense of cohesiveness and commitment to the project, which contributed to team success despite this difficulty. Second, for all team members, managing work/life balance presented challenges given the demands of the Clinical Scholars program, the requirements of implementing a successful Wicked Problem Impact Project, and the ongoing demands of both work and family obligations. Managing this balance has required a sustained commitment and investment in one’s project, team, and family. Our team members found it essential to realize value and purpose beyond the funding or even the project, and to recognize the potential application of our learning across the many dimensions of life. It was not necessarily easy to balance all of these goals and commitments, but each team member found it to be worthwhile just the same.

The third challenge represents the thorniest and most complex challenge of all. A strict interpretation of the Ryan Haight Act of 2008 had the potential to derail our project by casting the intervention as non-compliant with Federal rules. Given that opiate addiction is a politically charged topic, team members had to navigate some complexity with the press, who unfortunately cast the efforts in a stilted and dramatic light seemingly to create an enticing headline. While this unwanted publicity created unanticipated consequences, stakeholders who shared the vision of linking individuals and families to needed care in their communities were engaged. Through meetings with DEA representatives, the interpretation of the rules allowed for this project, and other similar telemedicine-based interventions across the country, to be successfully implemented.

7.1 Successes

Having our team and Wicked Problem selected by the Robert Wood Johnson Foundation was a critical and important initial success. The experience not only resulted in securing funding for our project, but also provided training, support, and guidance on how to grow individually as Clinical Scholars but also identify ways to refine and improve our project. Our team was fortunate enough to secure additional funding via the CareFirst grant to expand the telehealth model, which was a major coup and yielded several positive outcomes, including: 1) supporting our projects ability to expand the telehealth, Suboxone model to five additional sites within the State of Maryland; 2) increasing the number of physicians providing telehealth direct care and consultation and supervision to other providers; and 3) providing an opportunity to reduce some of the stigma associated with medication-assisted treatment.

The third major success has involved the opportunity to interact, network and meet with a diverse group of people in the RWJF universe. Learning about the vast array of wicked problems being addressed by other teams and their efforts to tackle and impact those problems has enriched our own perspective on the issues we face as a team and as individuals. Engagement in this process has facilitated personal and professional growth which transcends our wicked problem.

7.2 Lessons learned

Creating a team founded in shared values, informed by nimble leadership with the capacity to assimilate and share information rapidly, is critical for implementation. We highly recommend ongoing stakeholder meetings to facilitate communication, remedy potential problems and enhance evaluation of outcomes. We believe cultural sensitivity and community engagement is crucial for successful sustainability in rural communities. Our team learned that community leadership works best when shared and allows for the voices of multiple stakeholders to be heard. Community leadership requires listening that evolves to greater understanding of the perspective of others. Community leadership requires involvement of the community in order to cultivate a shared vision, shared responsibilities and shared roles in addressing the problems at hand.

Working within a community context is fraught with both landmines and inroads, risk and benefits. In Clinical Scholars we learned from our colleagues at Community-Campus Partnerships for Health (CCPH) that following the principle of “developing partnerships that balance power and share resources equitably among partners” is a good place to start. The CCPH principle referenced is the antithesis of the maxim “He who has the gold makes the rules” and hopefully helps guard against stepping on some of the potential landmines by promoting thought diversity and inclusiveness, and avoiding the dangers or disruptions associated with group think. In order to truly balance power and share resources equitably requires active communication and engagement to be successful.

8. Toolkit

A comprehensive toolkit can be found at <https://clinicalscholarsnli.org/community-impact>.

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