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FROM THE FIELD

Coordinating Outpatient Care for Pregnant and Postpartum Women with Opioid Use Disorder: Implications from the COACHH Program

Fran E. Hodgins[1] · Jessica M. Lang[1] · Gabriel G. Malseptic[1] · Lauren H. Melby[1] · Kathleen A. Connolly[1]

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Abstract

Purpose With the rise of opioid use disorder (OUD) among women of childbearing age, effective care models must address the complex needs of pregnant and postpartum women with OUD. This paper describes promising practices and implementation challenges from the Collaborative Outreach and Adaptable Care at Hallmark Health (COACHH) program, which utilizes a collaborative care team to coordinate outpatient care for pregnant and postpartum women with OUD. *Description* Semi-structured interviews were conducted with members of the COACHH team to discuss program logistics and takeaways. Interviews were coded to analyze themes. *Assessment* The COACHH team identified the need for specialized, time-intensive care coordination to address the unique needs of pregnant and postpartum women with OUD. First, the team prioritizes forming trusting relationships with patients to holistically understand patients' needs, improve patient engagement, and connect patients with resources. Second, the wide range of patient needs necessitates a team with diverse professional skills, whose members share an understanding of addiction and pregnancy. Third, finding the right quantitative outcome measurements is difficult; instead, success is measured in qualitative terms, stressing relationships and engagement as signals of change. Finally, the team encounters challenges with low referral rates, lack of provider awareness, and fragmented services. *Conclusion* We identified care delivery and program design considerations that may inform others who wish to coordinate care for pregnant and postpartum women with OUD. The program continues to face challenges enrolling patients and measuring outcomes, reflecting the need for tailored approaches and metrics for this population.

Keywords Pregnancy · Substance use disorder · Opioid use disorder · Community health worker · Patient-centered care

Significance

What is already known on this subject? Pregnant women with opioid use disorder (OUD) require specialized care to address complex medical and social needs, including substance use disorder treatment and prenatal care. While women with OUD may face barriers to accessing both types of care, pregnancy can present an opportunity to engage women in both prenatal care and OUD treatment.

What does this study add? This qualitative case study identifies implementation challenges and promising practices from a patient-centered pilot program designed to coordinate outpatient care for pregnant and postpartum women with OUD.

✉ Jessica M. Lang
Jessica.Lang@state.ma.us

[1] Massachusetts Health Policy Commission, 50 Milk Street, 8th Floor, Boston, MA 02109, USA

Introduction

With the rise of opioid use disorder (OUD) among women of childbearing age, care providers for this population increasingly encounter complex and intersecting medical and social needs (Krans and Patrick 2016). Effective care for pregnant women with OUD must go beyond the bounds of traditional prenatal care, and address pregnancy, substance use, and socio-economic challenges, such as housing instability and partner violence (Metz et al. 2012; Krans et al. 2015). The American College of Obstetrics and Gynecology recommendations stress the need for both prenatal care and pharmacotherapy, and recognize that women often face barriers to accessing both types of care (ACOG and American Society of Addiction Medicine 2012). Lack of specialized treatment facilities, lack of provider education and training, limited financial resources and social support, and stigma are barriers to accessing integrated and effective care (Stone 2015;

Exhibit 1 Typical patient pathway (*COACHH services)

Sutter et al. 2017; Roberts and Pies 2011; Saia et al. 2016; Terplan et al. 2012).

However, pregnancy can also present an opportunity for providers to engage women through prenatal care and substances use disorder (SUD) treatment (Daley et al. 1998; Wolfe et al. 2007). Extant literature highlights the importance of building strong relationships between pregnant women with OUD and their care team to improve outcomes for the woman and her baby (Jones et al. 2014; Morton and Konrad 2009; Marcellus et al. 2015). Integrated prenatal care and substance use treatment has also been shown to improve health outcomes for women and infants (Milligan et al. 2010; Sweeney et al. 2000; Racine et al. 2009). When integrated programs are not available, care coordination is an alternative approach to address the specialized and time-intensive needs of this population.

The Collaborative Outreach and Adaptable Care at Hallmark Health (COACHH) program provides care coordination for patients with SUD. The program team found that cases involving pregnant and postpartum women with OUD require special attention, and adapted a portion of their program to serve this population. As this program was developed, questions arose about the best way to implement effective programming, build a care team, and measure outcomes. This qualitative case study shares experiences, promising practices, and challenges from the COACHH program for pregnant and postpartum women with OUD.

Methods

Setting

Administered by the Massachusetts Health Policy Commission, the Community Hospital Acceleration, Revitalization, and Transformation (CHART) investment program provides phased grants to Massachusetts community hospitals for clinical transformation projects.[1] Hallmark Health System (HH)[2] used its CHART Phase 2 award to develop the COACHH program, which provides care coordination for patients with SUD (Malseptic et al. 2017). Recognizing the need for a tailored approach for pregnant and postpartum women with OUD, a portion of the COACHH program was adapted for this subpopulation; this case study focuses on this adaptation (MA Health Policy Commission 2016).[3]

Led by an Executive Director—a social worker by training—the COACHH team consists of a Social Work Supervisor, a nurse practitioner (NP), and a community health worker (CHW). As noted in Exhibit 1, after referral from providers within HH, the team works with patients to develop a care plan, connects them to resources, and provides support as patients navigate their OUD during pregnancy and postpartum. A large portion of the work takes place in the community: in the home, coffee shops, and other local settings.

The length of program engagement varies based on how early in the pregnancy women are referred, and typically continues for 90 days after delivery. After enrollment, the team and patients engage in a collaborative needs assessment to "meet women where they are" and develop a care plan guided by patients' goals. The NP is central in helping patients develop a pregnancy plan and/or explore options, including parenting, adoption, and termination. The care plan addresses broader medical and social needs, such as connecting to treatment and accessing social services.

The program connects with women two to three times a week, by phone or in person. The Social Work Supervisor and Executive Director build relationships with other providers in HH and with federal, state, and community resources. The CHW then enrolls patients in services. Frequently accessed resources include transportation vouchers, the Women, Infants, and Children nutrition program,

[1] The Massachusetts Health Policy Commission is an independent state agency that monitors reform in health care delivery and payment systems, and develops policies to reduce overall cost growth while improving the quality of patient care. CHART is a phased investment program that funds clinical transformation projects in non-profit, non-teaching Massachusetts community hospitals with low relative price. Administered over a two-year performance period, CHART Phase 2 projects have one or more of the following aims: reduce readmissions and improve transfers to post-acute care; reduce unnecessary emergency department utilization; enhance behavioral health care.

[2] Hallmark Health became MelroseWakefield Healthcare in May 2018.

[3] The COACHH program serves three groups of patients: (1) patients with personal history of frequent ED utilization, (2) patients with a history of near-lethal opioid overdose requiring administration of naloxone reversal, and (3) obstetric patients with active opioid use disorder.

Exhibit 2 Interview guide

Role
1. What is your role within the COACHH program?
Relationship building
2. How do you get a sense of your patients' needs?
3. What makes working with this population easy or difficult?
4. In your training, what have you found to be the most useful approaches or practices for engaging and working with pregnant women with OUD?
Program logistics
5. How do you work with patients to develop a care plan?
6. How do you communicate and coordinate patient care within the COACHH team?
7. How do you interact with other provider, agencies or community partners?
8. At what point do patients exit the program? How is this handoff made?
Successes, challenges, and lessons
9. Thinking of particular moments when you felt this program was working best, what do you think made the difference?
10. How do you know if you are succeeding or not succeeding with a patient?
11. Thinking of particular moments when you felt this program was not working well, what led to these challenges?
12. If you had a magic wand and could change one thing to help you better serve your patients, what would you change?
13. Are there any lessons you want to share with other people working with this population?
14. If you were training someone else to do your job, what are the key things that you think they should know?
15. When thinking of this program, what are you most proud of?

Early Intervention, therapy and psychiatry, methadone clinics, housing assistance, and other medical and social services at the hospital.

The program functions as a communication hub, providing updates to patients and sharing appropriate details with other providers or involved agencies. Many patients have questions about how their OUD will impact their baby's health, the implications for involvement with the Department of Children and Families (DCF), and how to connect with SUD treatment.

COACHH intended to track two measures on this subpopulation: (1) fraction of patients with integrated treatment plans (2) and weekly contact with program staff.

Data Collection and Analysis

A series of voluntary in-person, semi-structured interviews were conducted with COACHH team members who work directly with pregnant and postpartum women with OUD: the Executive Director, Social Work Supervisor, NP, and CHW. All team members gave their informed consent prior to conducting the interviews. See Exhibit 2 for the semi-structured interview guide.

Based on themes from the interviews, an initial round of codes was developed and revised iteratively. To validate the code list, a subset of interviews was independently coded by three authors and then compared until consensus was reached.

Results

The code list was grouped into five recurring themes: patient-provider relationship building, service delivery, building a care team, outcomes, and structural challenges. Exhibit 3 illustrates the conceptual grouping that emerged from the data, and Exhibit 4 describes the interviewee roles.

Relationship Building is Foundational to Patient Engagement

Recognizing the long-standing stigma unique to pregnant women with SUD, the team emphasizes building trusting relationships and "sticking by" patients to improve patient engagement. Regular communication through secure texting, phone calls, and in-person visits facilitates trusting and comfortable relationships.

> CHW: If I were a doctor or [staff of] DCF … it puts [up a] barrier to what they are willing to tell you or they think they are going to get in trouble. We let them know we are mandated reporters, but there is just that comfort level.

As a result, the team has a more holistic sense of a patient's strengths and challenges, gaps in care, and health-related social needs. Trust enables the team to engage

Exhibit 3 Qualitative codes and frequency by theme

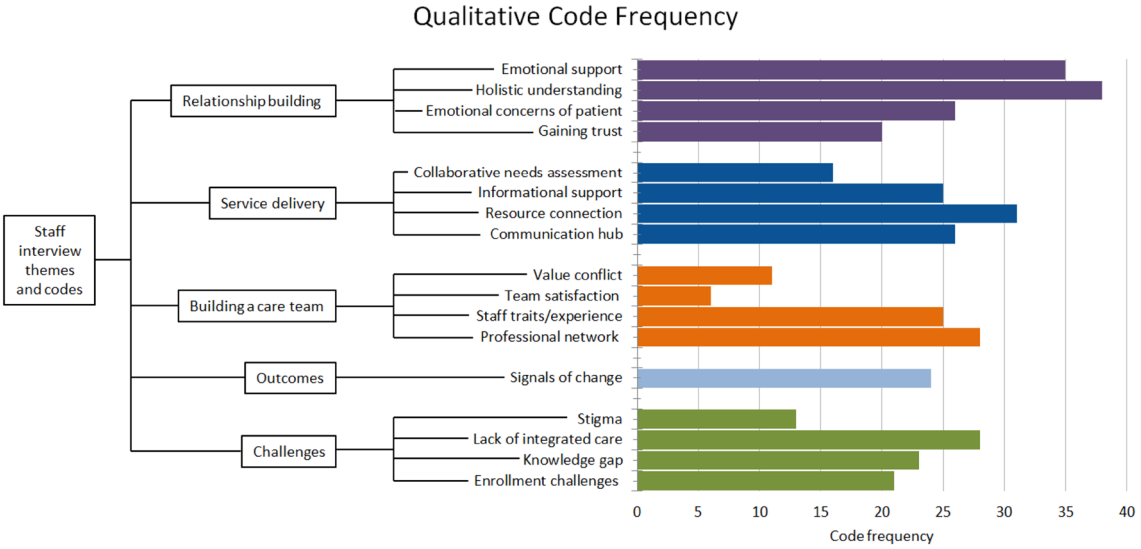

Exhibit 4 Interviewee roles

Role	License	Major responsibilities as they relate to the COACHH OB OUD population
Executive Director	MSW, LICSW	Oversees the program, supervises the NP and SW, and reviews data
Nurse Practitioner	NP	Works closely with patients to address medical needs, collaborates with other providers, and provides patient education
Social Work Supervisor	LICSW	Supervises the CHW, identifies and connects patients with resources
Community Health Worker	–	Engages regularly with patients to build relationships, helps patients enroll in services/programs, identifies challenges

patients in collaborative needs assessment, guided by patients' priorities, such as enrollment in treatment or finding stable housing. The team emphasizes a harm reduction approach, setting actionable and realistic goals for their patients. Their non-judgmental approach is particularly important when women have setbacks and relapses.

> NP: "They have gained the trust to know that it's ok if I relapse. […] I can talk to someone because [this program is about] harm reduction."

Staff stressed that this trusting relationship enables women to remain involved with the program and seek help as needed, rather than disengaging.

The Unique Challenges of This Population Necessitate a Team-Based Approach

As the COACHH program launched, a key question was how to build a care team that would effectively engage pregnant women with OUD. The team apportions responsibilities among the professionally diverse staff to maximize each team member's capacity and expertise. For example, the CHW dedicates time to maintaining regular communication with patients, allowing the NP to focus on clinical needs and patient education. Team members feel that their most important assets are their open-minded approach, their understanding of addiction and pregnancy, and their familiarity with community resources. Other skills are more role-specific. For example, the NP's background in pediatric nursing and experience working with children inform her family-centered approach, which is particularly important when women have other small children in the home. The Executive Director initially considered hiring a peer mother with lived experience of OUD. However, the team encountered challenges recruiting a person with appropriate professional qualifications and well-established recovery. Instead, the COACHH program deploys the CHW to build in-depth relationships with patients.

Pregnant and postpartum women with OUD are only one subpopulation that the COACHH program serves, but cases involving this population can be particularly emotionally charged. Team members recognize times when they struggle with bias or conflict with personal values. In addition, these cases are time intensive, often requiring contact outside of traditional work hours. The team meets regularly to process emotions and reconfigure caseloads to avoid burnout.

Exhibit 5 Signals of change

Program engagement outcomes	Attends visits and meetings with COACHH team, returns phone calls, reaches out when she needs help, is open with the team, feels empowered in her care planning
Health outcomes	Engages in OUD treatment, attends prenatal appointments, healthy pregnancy, NAS symptoms, health of the baby
Mother–infant outcomes	Bonding with baby, maintaining custody, having positive interactions with Department of Children and Families, successful nursing or feeding, Early Intervention engagement
Life planning outcomes	Securing housing, returning to school, reconnecting with family members, setting long term goals, connecting to services

Despite these challenges, team members find it rewarding to work with pregnant and postpartum women, noting the high potential for impact.

Success is Measured in Qualitative Terms

Initially, COACHH intended to track two measures on this subpopulation: (1) integrated treatment plan development (2) and weekly contact. However, these measures were not aggregated due to resource constraints and privacy concerns given the small population. Given the complexity of patients' lives and external factors that impact outcomes, quantitative outcome measures are not likely to be reliable for the small patient population served in this time frame.

The Executive Director expressed a desire for quantitative metrics, including program engagement and treatment retention, so that she could build a case for the program. However, she noted that such outcome measures may be influenced by factors beyond the reach of the program, and thus fail to capture the value of the care model.

In the absence of quantitative metrics, the team looked for qualitative and holistic ways to measure success. When monitoring the progress of individuals, they emphasize relationships, noting engagement and openness as signals of change. Milestones commonly noted are listed in Exhibit 5. Many of these markers are specific to the housing, parenting, and education/employment status of the individual, making them valuable for assessing a specific patient, but challenging to quantify for a group.

Low Patient Referrals Raise Questions About How to Reach Those in Need

Patients are referred to COACHH by their obstetrician (OB), and the program anticipated serving more than 40 women over 2 years. However, despite repeated outreach efforts, 18 months into the 2-year grant period, fewer than 20 patients have been enrolled. Referrals often occur late in pregnancy, limiting the time to build trusting relationships, form a pregnancy plan, and connect women with treatment and resources in advance of delivery.

> NP: "[I wish] we could find a way to […] identify the moms early on. A lot of times we get referrals at 34 weeks, and you're trying your best but you have a short period of time for relationship building and putting things in place."

The majority of referrals come from an OB office co-located on the same floor as COACHH, suggesting that providers in close proximity are more familiar with the program and inclined to refer patients. The team speculates that broader awareness of OUD across the health care system could also increase effective screening and timely referrals. However, brief office visits may limit clinicians' ability to identify and address the needs of this population.

> NP: They don't have the ability to look into someone's home. When they walk into the office for a 15 min visit, they only see what they can put together.

Some of the challenges with generating referrals are due to the limited timeline and scope of this pilot. Building awareness among providers and patients takes time. In addition, this program is focused on pregnant women with OUD, which can be frustrating to providers when they cannot refer patients with other SUDs. Lastly, while the COACHH team identifies resources for individual patients, team members are frustrated by the lack of broader care integration and inefficient knowledge dissemination.

Discussion

The rise of opioid use among women of childbearing age requires specialized care for pregnant and postpartum women with OUD. In Massachusetts, it is estimated that 2.3% of pregnant women used opioids in the year prior to delivery, a higher rate than national estimates (Schiff et al. 2018). From 2004 to 2013, the prevalence of neonatal abstinence syndrome increased from 3 per 1000 births to 16 per 1000 births (Massachusetts Department of Public Health 2017). Strong postpartum support is also critical, as the majority of pregnancy-associated deaths involving SUD occur between 42 and 365 days postpartum (Diop 2018).

For women trying to access perinatal care and substance use treatment, a limited number of providers with buprenorphine waivers narrows the options for integrated care (Huhn and Dunn 2017). Care coordination between medical services, substance use treatment, and social supports is an alternative strategy to help this population navigate their care. This case study highlights implementation challenges faced and adaptations developed by the COACHH initiative to provide outpatient care coordination for pregnant and postpartum women with OUD.

Better integration of COACHH within OB offices, community health centers, or other prenatal care facilities may increase the number and strength of referrals. Locating COACHH members in OB offices may help to improve provider awareness and encourage OBs to consider COACHH services within the purview of their care. Additional outreach in the community is also needed to engage women in early prenatal care, as early engagement improves outcomes for both the woman and infant (Racine et al. 2009).

Care teams for pregnant and postpartum women with OUD must have relevant and person-centered skills to address the complex needs of this vulnerable population. These include specific professional experiences and also attitudinal components, particularly a willingness to set aside judgmental reactions. Given the importance and time intensity of relationship building with this population, CHWs are an effective way to provide cost efficient, non-clinical care.

Measuring the impact of this type of program is challenging. As part of a mixed-methods study of integrative community-based programs for pregnant women with SUD, Marcellus et al. highlight the need for a new set of evaluation indicators that move away from using abstinence as a binary measure of success (2015). Instead, the authors suggest that success should be measured in terms of harm-reduction, which may be more nuanced and focus on engagement rather than abstinence (Marcellus et al. 2015). This is consistent with the type of indicators that COACHH uses to monitor individual patients, including length of sobriety and improved functional status.

Finally, this study is limited to the experience of one program, with a small number of patients and providers. Although this study did not include patient interviews, future research should capture the experiences of program participants. For example, another state funded program, Moms Do Care, conducts a series of patient interviews to learn more about their experience. Future studies of similar programs would benefit from a broader range of metrics that capture impacts on health and wellbeing, as many patients do not have a linear journey to recovery. Assessment tools need to capture individualized milestones in a way that can be aggregated to track program success, since success looks different depending on the woman's circumstance. Lastly, developing strategies for enrolling this population is foundational to the success of any intervention to promote better outcomes for women and their babies.

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Compliance with Ethical Standards

This paper is not based upon clinical study or patient data.

References

ACOG Committee on Health Care for Underserved Women and American Society of Addiction Medicine. (2012). ACOG committee opinion no. 524: Opioid abuse, dependence, and addiction in pregnancy. *Obstetrics and Gynecology, 119*(5), 1070–1076.

Daley, M., Argeriou, M., & McCarty, D. (1998). Substance abuse treatment for pregnant women: A window of opportunity? *Addictive Behaviors, 23*(2), 239–249.

Diop, H. (2018). *Maternal mortality and morbidity review in massachusetts: Substance use among pregnancy-associated deaths—Massachusetts, 2005–2014*. Retreived September 27, 2018 from https://www.mass.gov/files/documents/2018/05/02/ma-maternal-mortality-and-substance-use-april-2018.pdf.

Huhn, A. S., & Dunn, K. E. (2017). Why aren't physicians prescribing more buprenorphine? *Journal of Substance Abuse Treatment, 78*, 1–7.

Jones, H. E., Deppen, K., Hudak, M. L., Leffert, L., McClelland, C., Sahin, L., … Creanga, A. A. (2014). Clinical care for opioid-using pregnant and postpartum women: The role of obstetric providers. *American Journal of Obstetrics and Gynecology, 210*(4), 302–310.

Krans, E. E., Cochran, G., & Bogen, D. L. (2015). Caring for opioid-dependent pregnant women: Prenatal and postpartum care considerations. *Clinical Obstetrics and Gynecology, 58*(2), 370–379.

Krans, E. E., & Patrick, S. W. (2016). Opioid use disorder in pregnancy: Health policy and practice in the midst of an epidemic. *Obstetrics & Gynecology, 128*(1), 4–10.

Malseptic, G. G., Melby, L. H., & Connolly, K. A. (2017). Complex care models to achieve accountable care readiness: Lessons from two community hospitals. *Healthcare, 6*(1), 74–78.

Marcellus, L., MacKinnon, K., Benoit, C., Phillips, R., & Stengel, C. (2015). Reenvisioning success for programs supporting pregnant women with problematic substance use. *Qualitative Health Research, 25*(4), 500–512.

Massachusetts Department of Public Health. (2017). *Massachusetts state health assessment*. Retrieved September 25, 2018 from https://www.mass.gov/service-details/2017-state-health-assessment.

Massachusetts Health Policy Commission. (2016). *CHART phase 2 awards: Hallmark health system*. Retrieved September 25, 2018 from http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-agencies/health-policy-commission/investment-programs/chart/phase-2/hallmark-health-system.pdf.

Metz, V., Köchl, B., & Fischer, G. (2012). Should pregnant women with substance use disorders be managed differently? *Neuropsychiatry, 2*(1), 29–41.

Milligan, K., Niccols, A., Sword, W., Thabane, L., Henderson, J., Smith, A., & Liu, J. (2010). Maternal substance use and integrated

treatment programs for women with substance abuse issues and their children: A meta-analysis. *Substance Abuse Treatment, Prevention, and Policy, 5*, 21.

Morton, J., & Konrad, S. C. (2009). Introducing a caring/relational framework for building relationships with addicted mothers. *Journal of Obstetric, Gynecologic, and Neonatal Nursing: JOGNN, 38*(2), 206–213.

Racine, N., Motz, M., Leslie, M., & Pepler, D. (2009). Breaking the cycle pregnancy outreach program: Reaching out to improve the health and well-being of pregnant substance involved mothers. *Journal of the Association for Research on Mothering, 11*, 279–290.

Roberts, S. C. M., & Pies, C. (2011). Complex calculations: How drug use during pregnancy becomes a barrier to prenatal care. *Maternal and Child Health Journal, 15*(3), 333–341.

Saia, K. A., Schiff, D., Wachman, E. M., Mehta, P., Vilkins, A., Sia, M., Price, J., … Bagley, S. (2016). Caring for pregnant women with opioid use disorder in the USA: Expanding and improving treatment. *Current Obstetrics and Gynecology Reports, 5*(3), 257–263.

Schiff, D. M., Nielsen, T., Terplan, M., Hood, M., Bernson, D., Diop, H.,.. . Land, T. (2018). Fatal and nonfatal overdose among pregnant and postpartum women in Massachusetts. *Obstetrics & Gynecology, 132*(2), 466–474.

Stone, R. (2015). Pregnant women and substance use: Fear, stigma, and barriers to care. *Health & Justice, 3*, 2.

Sutter, M. B., Gopman, S., & Leeman, L. (2017). Patient-centered care to address barriers for pregnant women with opioid dependence. *Obstetrics and Gynecology Clinics of North America, 44*(1), 95–107.

Sweeney, P. J., Schwartz, R. M., Mattis, N. G., & Vohr, B. (2000). The effect of integrating substance abuse treatment with prenatal care on birth outcome. *Journal of Perinatology, 20*(4), 219–224.

Terplan, M., McNamara, E. J., & Chisolm, M. S. (2012). Pregnant and non-pregnant women with substance use disorders: The gap between treatment need and receipt. *Journal of Addictive Diseases, 31*(4), 342–349.

Wolfe, E. L., Guydish, J. R., Santos, A., Delucchi, K. L., & Gleghorn, A. (2007). Drug treatment utilization before, during and after pregnancy. *Journal of Substance Use, 12*(1), 27–38.