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Integrated substance use and prenatal care delivery in the era of COVID-19

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ABSTRACT

The COVID-19 pandemic has directly impacted integrated substance use and prenatal care delivery in the United States and has driven a rapid transformation from in-person prenatal care to a hybrid telemedicine care model. Additionally, changes in regulations for take home dosing for methadone treatment for opioid use disorder due to COVID-19 have impacted pregnant and postpartum women. We review the literature on prenatal care models and discuss our experience with integrated substance use and prenatal care delivery during COVID-19 at New England’s largest safety net hospital and national leader in substance use care. In our patient-centered medical home for pregnant and postpartum patients with substance use disorder, patients’ early responses to these changes have been overwhelmingly positive. Should clinicians continue to use these models, thoughtful planning and further research will be necessary to ensure equitable access to the benefits of telemedicine and take home dosing for all pregnant and postpartum patients with substance use disorder.

Substance use disorder (SUD) during pregnancy is a growing public health concern in the United States. From 2009 to 2014, rates of opioid use disorder documented at the time of delivery rose nationally from 1.5/1000 to 6.5/1000, with rates varying across states (e.g. 0.7/1000 in Washington DC, to 48.6/1000 in Vermont) (Haigh et al., 2018). Clinicians should coordinate prenatal and substance use care to optimize pregnancy outcomes.

The traditional U.S. model of prenatal care consists of 12–14 in-person office visits for low-risk patients who deliver at full term (total visit range reflects different delivery dates). We know that prenatal care improves perinatal outcomes (American Academy of Pediatrics, 2017; Conway & Kutinova, 2006; DeMasi et al., 2017; McDuffie et al., 1996; Yan, 2017). For women with SUD, integrated prenatal care has brought SUD care, including medications for opioid use disorder (MOUD) and psychiatric medication management and counseling, into the traditional prenatal visit structures (Saia et al., 2016; Saia et al., 2017). Adequate prenatal care, defined as early initiation and sustained attendance, is associated with improved perinatal outcomes with a dose-response effect (Kotelchuck, 1994; Osterman & Martin, 2018; Laditka et al., 2005; Loftus et al., 2015; Carter et al., 2016; Nam et al., 2019; Cox et al., 2011; Debiec et al., 2010). Yet an in-person, office-based obstetrical model may present unintended barriers to care access for pregnant women who may not be able to easily obtain transportation or take time off work (Gadson et al., 2017). For women with SUD, additional barriers to consistent participation in in-person prenatal care include stigma, difficulty accessing the health care system, and SUD management needs (e.g., daily dosing at a methadone clinic or participating in a residential treatment program).

The COVID-19 pandemic has increased use of telemedicine (visits done by phone, video, or both). Prior to COVID-19, clinicians had used telemedicine successfully for chronic disease management such as diabetes (Totten et al., 2016; Polinski et al., 2016); yet data in obstetric care were more limited. Studies demonstrated patient and provider satisfaction without changes in maternal or neonatal outcomes when compared to traditional care (Butler Tobah et al., 2019; Dalfrà et al., 2009; Homko et al., 2007; Homko et al., 2012; Kruger et al., 2003; Marko et al., 2019; Peahl et al., 2020; Pérez-Ferre et al., 2010a; Pérez-Ferre et al., 2010b; Pflegeisen & Mou, 2017). However, telemedicine studies primarily included privately insured, well-resourced, majority white populations; we know little about the experiences of low-income pregnant women with SUD. As socioeconomic status, technology access, and varying health literacy may limit patients’ ability to access...
telemedicine, telemedicine could exacerbate disparities (Gadson et al., 2017; Owuzurike et al., 2020; Peahl et al., 2020; Raman, 2020; Zephyrin & Nuzzo, 2020). Expansion of telemedicine services did directly impact MOUD accessibility; in mid-March, as the U.S. Department of Health and Human Services lifted restrictions on telemedicine, the Drug Enforcement Administration allowed authorized prescribers to initiate new patients on buprenorphine via telemedicine (Bailey, 2020).

With COVID-19 cases rising in Massachusetts, at Boston Medical Center, the RESPECT clinic (Recovery, Empowerment, Social Services, Prenatal care, Education, Community, and Treatment), a patient-centered medical home that integrates SUD and prenatal care on-site, shifted to a hybrid telemedicine/in-person prenatal care model. Pre-COVID-19, the clinic conducted all integrated prenatal-SUD care visits in-person; with the COVID-19 hybrid model, we shifted to using telemedicine for many visits, with in-person visits at critical OB milestones (see Table 1). Our telemedicine visits were conducted using our hospital’s approved platforms (Zoom or Doximity for video enabled visits) or telephone alone, with patient preference determining modality of delivery. Clinicians conducting visits were in dedicated clinic rooms or in other private settings using hospital-approved equipment.

Of our 90 current patients, 79% self-identified as white, 12% as African American, 3% as Hispanic, and 5% as multi-racial; the majority have primary opioid use disorder (OUD) treated with medication, with 53%, 34% and 13% utilizing methadone, buprenorphine, and no MOUD, respectively. These patients are receiving 6–8 telemedicine contacts per month (weekly nurse call, and every other week obstetric MD, psychiatry, and social work calls) as well as biweekly to monthly in-person visits. Telemedicine has provided flexibility for many more patient care touch points than our pre-COVID-19 model, as Table 1 shows.

Our evaluation of this hybrid telemedicine model is ongoing but surprising early positive trends are emerging despite initial trepidation among providers. Most relevant for our clinic, no-show rates for the COVID-19 hybrid model are lower than for the pre-COVID-19 in-person model, when we examine trends over the past year. Comparing October 2019–February 2020 (pre-COVID-19) to March 2020–August 2020 (during COVID-19), no-show rates fell from 34% of visits to 10% of visits, respectively. We are currently developing a mixed-method evaluation of patient and provider experiences with our hybrid model to understand this notably higher visit attendance during the COVID-19 period. In conversation with our clinicians, patients have noted a variety of individualized preferences, including the convenience of not needing transport to or childcare for telemedicine appointments; avoiding a clinical setting or city neighborhood linked to prior substance use; and the effects of social isolation that COVID-19 imposed, which make all visits, telemedicine and in-person, an attractive means of purposeful connection for some patients.

COVID-19 has not only impacted our integrated prenatal-SUD care delivery model, it has also, in our state, impacted MOUD with methadone, the MOUD modality that the majority of our patients use. Our inpatient initiation and titration of methadone for pregnant patients was unaffected by COVID-19 (we still had the ability to admit patients), but we did note a downward trend of patients seeking this titration, from an average of 6 unique patient admissions per month pre-COVID-19 to 1–2 per month during the peak of the COVID-19 pandemic. We hope to understand this trend better through our planned mixed-method study; informally, some patients expressed a desire to avoid coming to the ED (the route by which these patients get admitted) during the pandemic peak, which may have been a contributing factor to the decrease. For our pregnant patients with OUD treated with methadone, the expansion of take-home dosing protocols (in our state ranging from 14 to 28 day dosing) has limited long dosing lines, which were common at busy periods in many of our city clinics, and which some of our patients reported were substance use triggers as well, consistent with prior literature examining relapse triggers (Calvert, 2020a; Kennedy et al., 2013; Preston & Epstein, 2011). Pre-COVID-19, clinicians reserved take-home status for persons who met strict methadone maintenance criteria.

### Table 1

| Pre-COVID19 RESPECT clinic schedule – through February 2020 | COVID-19 RESPECT clinic schedule – March 2020–present Hybrid model – combination telemed (T) and in person visits (IP) |
|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| First trimester | Weekly (x 4) | Weekly |
| Initial prenatal patient – labs, exam | check-in | SUD RN |
| 12 week | relapse prevention, MOUD | call |
| ultrasound, genetic screening | support, referrals to individualize recovery care (meetings, counseling, peer mentor) | call |
| 28 week | Urine drug test q visit | Biweekly |
| 32 week | follow-ups for resource utilization/RN and LICSW recovery support PRN | OB MD call |
| Q 2 week | (ongoing) | In person |
| 16 week | relapse prevention check-in | weekly visit |
| genetic screening if not done | MOUD | |
| 20 week | efficacy check, referrals to individualize recovery care (meetings, counseling, peer mentor) | |
| 28 week | Urine drug test q visit | |
| 32 week | follow-ups for resource utilization/RN and LICSW recovery support PRN | |
| 16 week (T) | 20 week (IP) | |
| 12 week | anatomy survey, visit, FHT/BP/weight | |
| 24 week (T) | 28 week (IP) – glucose tolerance testing, Tdap vaccine, CBC, Rhogam if indicated, visit, FHT/BP/weight | |
| 28 week | 36 week | |
| 36 week | 38 week | |
| 32 weeks | 34 week | |
| 34 weeks | 36 week | |
| 36 weeks | 38 week | |
| 37 weeks and onward | 39 week | |
| 40 week | 40 week | |

(continued on next page)
Prenatal care | SUD care | Pre-COVID19 RESPECT clinic schedule – through February 2020 | COVID-19 RESPECT clinic schedule – March 2020-present | Hybrid model – combination telemed (T) and in person visits (IP) | Prenatal care | SUD care |
---|---|---|---|---|---|---|
Postpartum | recovery | planning if | support PRN | planning if | support PRN | recovery |
1 week PP – incision, mood check | | | | | | |
3 week PP | | | | | | |
5 week PP | | | | | | |
exam, labs, mood check, contraception (eg IUD) | | | | | | |
Total visits by type (in person, IP, telemed (T)) | 14-16 IP visits for prenatal care depending on delivery date: at the majority of these in person visits, patients also had face to face contact with social work, RN, and psych tailored to their individual needs, with additional phone contacts as needed | 8-9 IP prenatal visits depending on delivery date | 8 T visits for prenatal care plus additional – 6 phone contacts per month by interdisciplinary staff | | | |
Table 1 (continued)
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