IMPACTS OF A CROSS-SYSTEM CARE COORDINATION PROGRAM FOR PREGNANT INDIVIDUALS WITH OPIOID USE DISORDER AND SUBSTANCE EXPOSED NEWBORNS

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INTRODUCTION

Pregnant individuals with opioid use disorder (OUD) and substance exposed newborns (SEN) are a high-risk population due to long-term physical and mental health impacts of substance use/exposure for the birthing parent-infant dyad and other family members. The Cost-Effective, Coordinated Care for Caregivers and Substance Exposed Newborns (C4SEN) investment program, a grant-funded program of cross-system care coordination involving obstetrics, behavioral health, and primary care for the birthing parent-infant dyad, was implemented with the goal of improving access to and quality of care for this vulnerable population.

Programs were required to facilitate evidence-based treatment, including medication for opioid use disorder (MOUD) and psychotherapy for the birthing parent, and Early Intervention (EI) services and well-child visits for the infant. Programs were encouraged to provide additional wraparound supports to promote engagement and address participants' other needs. Four Massachusetts hospitals which implemented C4SEN programs funded by the Massachusetts Health Policy Commission (HPC) from October 2021-July 2023 are included in this evaluation.

OBJECTIVES

- To evaluate the extent to which program participants received evidence-based care for infants through: 1) referral to and receipt of EI services, and 2) attendance at well-child visits in the first year of life
- To evaluate the extent to which program participants received evidence-based treatment for OUD in birthing parents, including MOUD and psychotherapy
- To understand program implementation factors influencing patient experience and engagement in the program, including perceived impacts and overall satisfaction

STUDY DESIGN

This mixed-methods observational study to evaluate the HPC's C4SEN program included quantitative data collected from the programs and obtained from a statewide quality improvement network, survey data from participants, and qualitative data collected from written responses and interviews with participants and staff.

Key quantitative measures were EI referral rate and well-child visit attendance, engagement in MOUD and psychotherapy, and duration of engagement in the program. Participating hospitals reported aggregate data on enrolled individuals at three timepoints during the program. Comparison data was provided by a statewide neonatal quality improvement network which collected a set of voluntarily reported measures on SEN births. Data from all grant-funded hospitals was aggregated into one cohort (including one awardee hospital that did not complete implementation and was excluded from other data reported in this evaluation) with non-funded hospitals as comparison.

Fifteen interviews were completed with program staff, 13 with participants, and 37 surveys were completed by participants. Written responses were developed by HPC staff and completed by awardees on a quarterly basis. Qualitative data was coded and thematically analyzed. Themes of interest were staff insights related to participant engagement, connection to EI and psychotherapy, perceived impacts of the programs from staff and participants, overall satisfaction and program strengths.

RESULTS

PROGRAM ENROLLMENT

- **221** birthing parents and **212** substance exposed infants enrolled in the program

EARLY INTERVENTION

- EI referral rate **higher** among program participants **(74% vs 52%)**, statistical significance could not be determined with comparison data.
- **45%** of program participants referred to EI completed a first visit
- Primary barrier to EI services was parental hesitancy

> "The biggest challenge with connecting patients to EI is that they do not have a lot of trust and letting a stranger into their home is not something they are comfortable with [...] Many still being uncomfortable and feeling guilt around the idea that their child could need more support."

WELL-CHILD VISITS

- **94%** were completed at any margin from target date
- **92%** of visits were completed within 2 weeks of target date
- These rates **exceeded** those documented in the literature for children with prenatal opioid exposure.[1]

MEDICATION FOR OPIOID USE DISORDER

- **79%** of participants were taking MOUD at program enrollment
- Programs engaged **74%** of participants not taking MOUD at time of program enrollment in MOUD
- Data from statewide quality network indicated statistically significantly **higher** rates of exclusive MOUD use (no illicit opioid consumption) at hospitals with a program in place (OR 1.87, 95% CI 1.33-2.64).

PSYCHOTHERAPY

- **57%** of participants were engaged in psychotherapy at enrollment
- Programs engaged **30%** of participants not engaged at time of program enrollment in psychotherapy
- A number of barriers **limited** uptake of psychotherapy including provider shortages, insurance networks, and participant hesitancy.

FACTORS INFLUENCING EXPERIENCE AND ENGAGEMENT

- Participants reported high levels of satisfaction
  - Mean score of **29.4** out of possible **32** on Client Satisfaction Questionnaire (CSQ-8[2], n=37, SD 4.6).
- Participants and staff spoke to perceived improvements in well-being.

> "I know ultimately it was my choice to turn my life around and show up for myself and my kids. But without the support of them [program staff] and the encouragement and having them in my life, I really don't think I would be where I'm at today."

- **Referral or warm handoff** to the program from another provider, such as OB, was a theme of successful engagement.
- Flexible options for contact and engagement, non-judgmental staff, social support, and connection to a wide variety of resources were noted as **strengths of the program** and important to engagement by both participants and staff.
- The **need for supports** for other family members, especially fathers with OUD, was noted by staff.

CONCLUSIONS

A cross-system program to support parent-infant dyads demonstrated positive impacts on participant well-being, connection to services for the impacts of perinatal substance exposure, and participation in evidence-based treatment for OUD through flexible and non-judgmental service provision. Programs demonstrated superior rates of exclusive MOUD use and well-child visit attendance compared to those noted in other similar populations. Programs surfaced barriers to engagement in EI and psychotherapy.

Participants and staff noted improved well-being for participants and high satisfaction, which are important to engagement. Key program factors contributed to engagement and satisfaction, including the wide variety of supports available, program staff providing social support in addition to services, and the flexibility of program offerings and contact methods. Participants and staff also emphasized the importance of a non-judgmental approach for a population that often experiences high levels of stigma and bias. All of these factors point to the importance of staffing and flexible models of wraparound supportive care for this high-risk population.

POLICY IMPLICATIONS

Health systems should consider broader use of flexible programs of cross-sector supports and services to improve outcomes and mitigate long-term risks for this population. Policy makers should consider interventions to support these programs, reduce stigma, and encourage disclosure of OUD history and engagement in care. Cross-system collaboration to increase access to psychotherapy, increase acceptance and uptake of EI, and support the needs of other family members are also key considerations for this population.

1. Goyal, N. K., Rohde, J. F., Short, V., Patrick, S. W., Abatemarco, D., & Chung, E. K. (2020). Well-Child Care Adherence After Intrauterine Opioid Exposure. Pediatrics, 145(2), e20191275. https://doi.org/10.1542/peds.2019-1275

2. Attkisson, C. C., & Greenfield, T. K. (2004). The UCSF Client Satisfaction Scales: I. The Client Satisfaction Questionnaire-8.

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