

The image features three stylized silhouettes of pregnant women in profile, facing right. The silhouettes are filled with shades of blue and purple, and are set against a white background. The women are of different ethnicities and are shown in various stages of pregnancy. A horizontal bar with a blue segment on the left and a grey segment on the right is positioned at the top of the page.

Addressing Maternal Mental Health

Dawn Boender, MD

Connie Guille, MD

Courtney King, PhD



LEARNING OBJECTIVES

Understand

...understand how behavioral health issues impact both maternal and infant health outcomes

Explain

...explain the relationship between behavioral health and access to care.

Identify

...identify current behavioral health programs and services being provided by the Reproductive Behavioral Health team at the Medical University of South Carolina.

Participant will be able to...

UNDERSTAND

HOW BEHAVIORAL
HEALTH ISSUES IMPACT
BOTH MATERNAL AND
INFANT HEALTH
OUTCOMES



MATERNAL MENTAL HEALTH CONDITIONS

1 IN 5 women experience a **PERINATAL MENTAL HEALTH CONDITION**¹ such as depression and anxiety

1 IN 8 women have symptoms of **POSTPARTUM DEPRESSION**²



Over **50%** of pregnant women with depression are **UNTREATED**³, further impacting mother and child

In 2019, maternal mental health conditions were the **LEADING CAUSE OF PREGNANCY-RELATED DEATHS**⁵

Mental health conditions account for **9% OF PREGNANCY-RELATED DEATHS**⁶, and suicide accounts for **20% OF POSTPARTUM DEATHS**⁷

Black and Indigenous women are **2-3X MORE LIKELY TO EXPERIENCE MATERNAL MENTAL HEALTH CONDITIONS**, but less likely to receive care^{8,9,10}



MATERNAL HEALTH

By Susanna L. Trost, Jennifer L. Beauregard, Ashley N. Smoots, Jean Y. Ko, Sarah C. Haight, Tiffany A. Moore Simas, Nancy Byatt, Sabrina A. Madni, and David Goodman

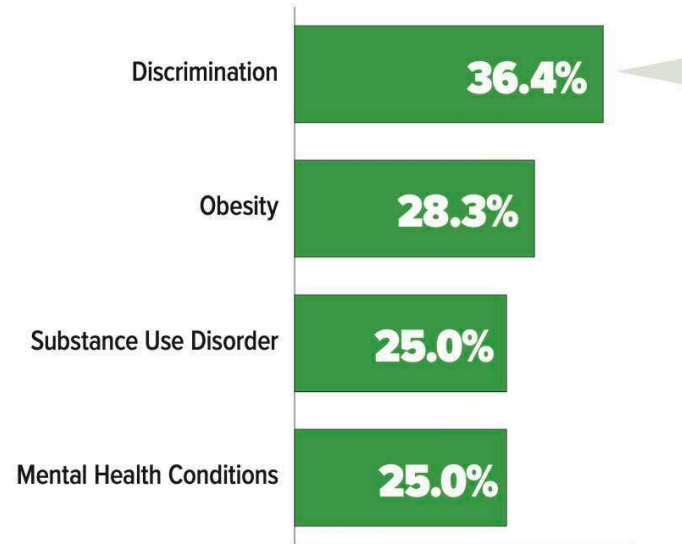
Preventing Pregnancy-Related Mental Health Deaths: Insights From 14 US Maternal Mortality Review Committees, 2008–17

Trost, SL, Beaurard, JL, Smoots, AN, Ko, JY, Haight SC, Moore Simas AS, Byatt N, Madni SA, Goodman, D. Preventing Pregnancy-Related Mental Health Deaths: Insights From 14 US Maternal Mortality Review Committees, 2008–17. Health Affairs Vo. 40, No. 10.

MANY MATERNAL DEATHS DUE TO MENTAL HEALTH CONDITIONS ARE PREVENTABLE

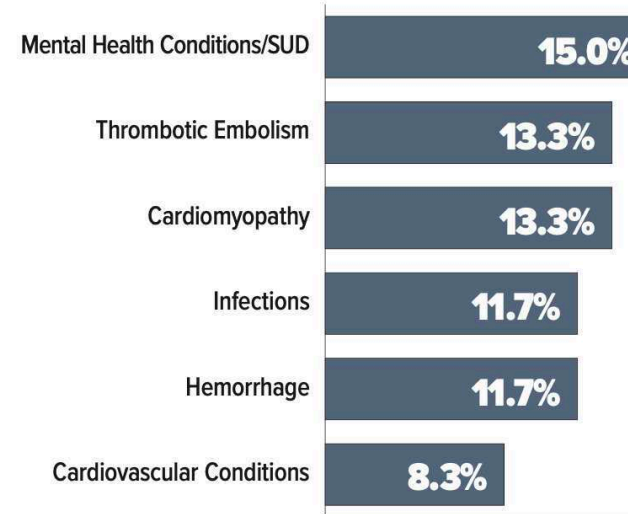
Circumstances of Pregnancy-Related Deaths

Percent of pregnancy-related deaths; 2018-2020



Leading Causes of Pregnancy-Related Deaths

Percent of pregnancy-related deaths; 2018-2020



SOUTH CAROLINA 2024 MMRC BRIEF

SC DHEC (2024).

FINANCIAL COSTS OF UNTREATED PMADS

- Increased cost of:
 - Medical care (appropriate and inappropriate)
 - Child abuse/neglect
 - Breastfeeding cessation
 - Family dysfunction
 - Brain development
- Luca et al. (2020)
 - Estimated cost of untreated MMH conditions \$32,000 per mother-infant pair
 - 65% maternal cost: reduced economic productivity, maternal health expenditures
 - 35% infant cost
 - \$14 billion nationally
 - Conclusion: Economic burden is high. Treating PMADs can save money for employers, insurers, government, and society.



OTHER COSTS OF UNTREATED PMADS

- Relationship strain
- Increased separation/divorce
- Intimate partner violence
- Unemployment
- Developmental delays
- Behavioral problems
- Increased substance abuse
- Infanticide, suicide
 - These are PREVENTABLE

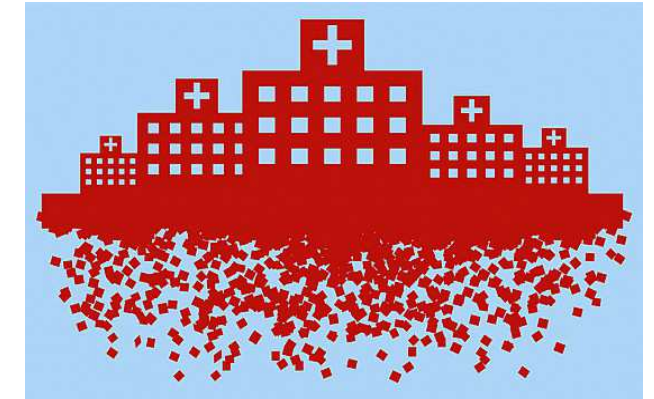


EXPLAIN

THE RELATIONSHIP
BETWEEN
BEHAVIORAL HEALTH
AND ACCESS TO CARE



BARRIERS TO SUCCESSFUL SCREENING & EFFECTIVE REFERRAL TO TREATMENT



Patient

Bias, Discrimination, Stigma, Racism

Social Determinants of Health

Fear of social/legal consequences

Lack of available or accessible *MH/SUD treatment providers

Provider

Bias, Discrimination, Racism

Insufficient time

Lack of MH/SUD knowledge

Lack of available or accessible *MH/SUD treatment providers

Healthcare System

Structural Racism

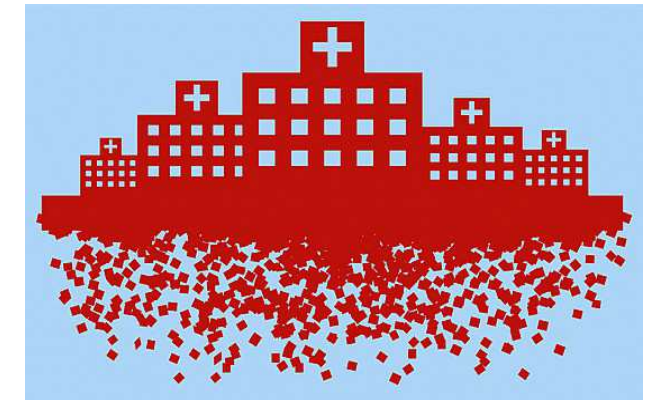
Cost: Time & Re/Training

Separation of MH/SUD care

Lack of available or accessible *MH/SUD treatment providers

*MH: Mental Health; SUD: Substance Use Disorder

BARRIERS TO SUCCESSFUL SCREENING & EFFECTIVE REFERRAL TO TREATMENT



Patient

Bias, Discrimination, Stigma, Racism

Social Determinants of Health

Fear of social/legal consequences

Lack of available or accessible *MH/SUD treatment providers

Provider

Bias, Discrimination, Racism

Insufficient time

Lack of MH/SUD knowledge

Lack of available or accessible *MH/SUD treatment providers

Healthcare System

Structural Racism

Cost: Time & Re/Training

Separation of MH/SUD care

Lack of available or accessible *MH/SUD treatment providers

*MH: Mental Health; SUD: Substance Use Disorder

INCREASED MATERNAL RISKS:



- Lower quality of life
- Poor nutrition
- Poor engagement in PNC
- Experience abuse
- Increased tobacco and substance use disorders
- Preeclampsia
- Worsening PPD
- Difficulty with bonding
- Breastfeeding challenges
- Relationship strain
- Negative economic consequences
- Increased maternal morbidity and mortality

STIGMA AS A BARRIER TO CARE



Authorities in at least 45 states have sought to prosecute women for exposing their unborn child to drugs

The fear of being reported to the police or child welfare was strongly related associated with lack of prenatal care

One of the most powerful tools to overcome and reduce stigma is to practice empathy

SUBSTANCE USE DISORDER SCREENING



"Screening for substance use should be a part of comprehensive obstetric care and should be done at the first prenatal visit in partnership with the pregnant woman..."

...obstetric care providers have an ethical responsibility to their pregnant and parenting patients with substance use disorder to discourage the separation of parents from their children solely based on substance use disorder, either suspected or confirmed. In states that mandate reporting, policy makers, legislators, and physicians should work together to retract punitive legislation and identify and implement evidence-based strategies outside the legal system to address the needs of women with addictions...


Urine drug testing... should be performed **only with the patient's consent** and in compliance with state laws. Pregnant women **should be informed** of the potential ramifications of a positive test result, including any mandatory reporting requirements"

-ACOG 2017



IDENTIFY

CURRENT BEHAVIORAL HEALTH PROGRAMS AND SERVICES BEING PROVIDED BY THE REPRODUCTIVE BEHAVIORAL HEALTH TEAM AT THE MEDICAL UNIVERSITY OF SOUTH CAROLINA.



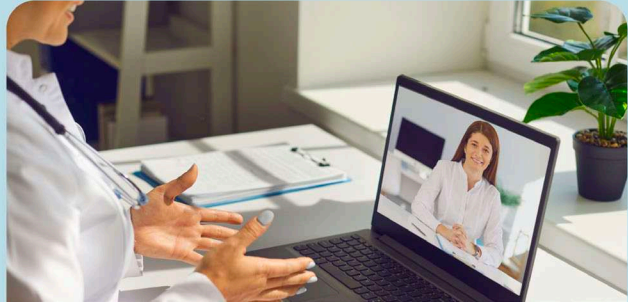
**Mom's IMPACTT:
IMProving Access to Maternal
Mental Health & Substance Use
Disorder
Care through
Telemedicine and Tele-Mentoring**

GOAL 1
PROVIDER
BUILDING FRONTLINE
PROVIDER CAPACITY

GOAL 2
PATIENT
ACCESS TO MH/SUD
CARE

Mom's IMPACTT

IMProving Access to Maternal Mental Health and Substance
Use Disorder Care Through Telemedicine and Tele-Mentoring



Every
Mother
Deserves
Support.



Mom's IMPACTT has 3 components and provides:

- **Real-time psychiatric consultation for providers** to support them in effectively managing maternal mental health and substance use disorders.
- **Mental health and substance use disorder trainings** tailored to the needs of the hospital and/or outpatient practice's providers and staff.
- **Brief Phone assessment by Care Coordinator** to provide appropriate referral to treatment and community-based resources.

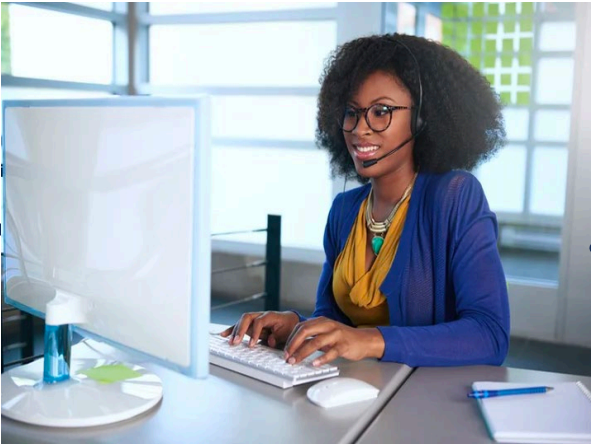
How Mom's IMPACTT Works



Building Provider Capacity: Training & Consultation



Midwives
Obstetricians
Pediatricians
Psychiatrists
Community Health Workers/Doulas
Advance Practice Providers
Primary Care/Family Practice



- Assessment
- Referrals & Resources
- Care Coordination

843-792-MOMS
(843)-792-6667



Provider-Provider Consultation



Provider Trainings

How Mom's IMPACTT Works



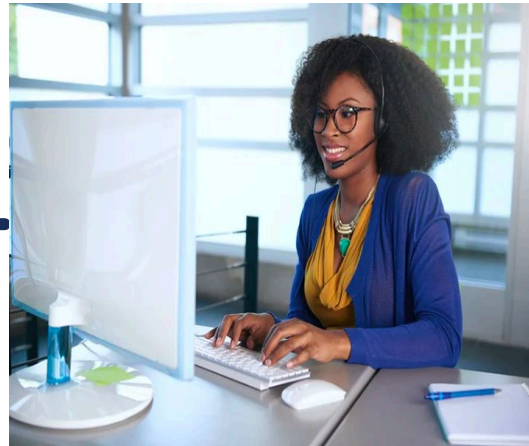
Patients



Pregnant



0-12 Months Postpartum



- Assessment
- Referrals to Resources
- Permission to Communicate with Provider for Care Coordination

Patient-Provider Treatment

Case example

Perinatal Opioid Use Disorder

Self Referral to Moms IMPACTT

Concern: medication questions

- 35 y/o, white woman
- G1PO, 14 weeks
- Birth control failure
- 5 years sustained recovery with MOUD
- Provider stopped prescribing in pregnancy
- Experiencing withdrawal with craving
- No longer connected to recovery community support

Care Coordinator Intervention

Understanding stigma

- Home-based telemedicine services
 - Risk/benefits of options during pregnancy
 - Stabilized on MOUD
- OB Provider with adequate POUD training
- Delivery hospital with NOWS experience
- Coordination across health care systems
 - Training and education
- Linkage to community & recovery support services

Moms IMPACTT

Outcomes: May 2022- August 2024

Goal 1: Provider *Building Frontline Provider Capacity*

Provider
Trainings



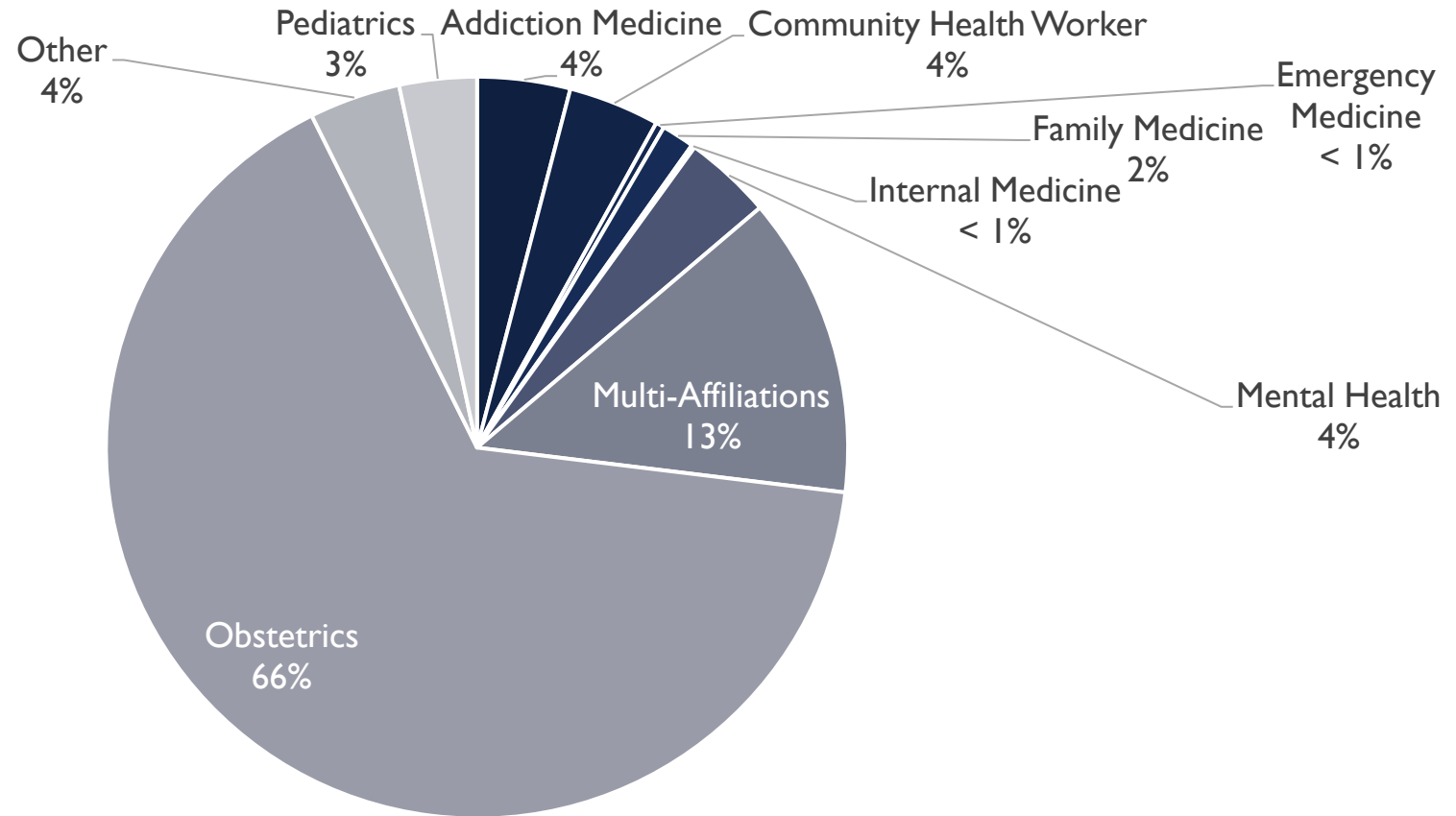
MH/SUD trainings for
1,350 front-line providers

Provider-Provider
Consultation



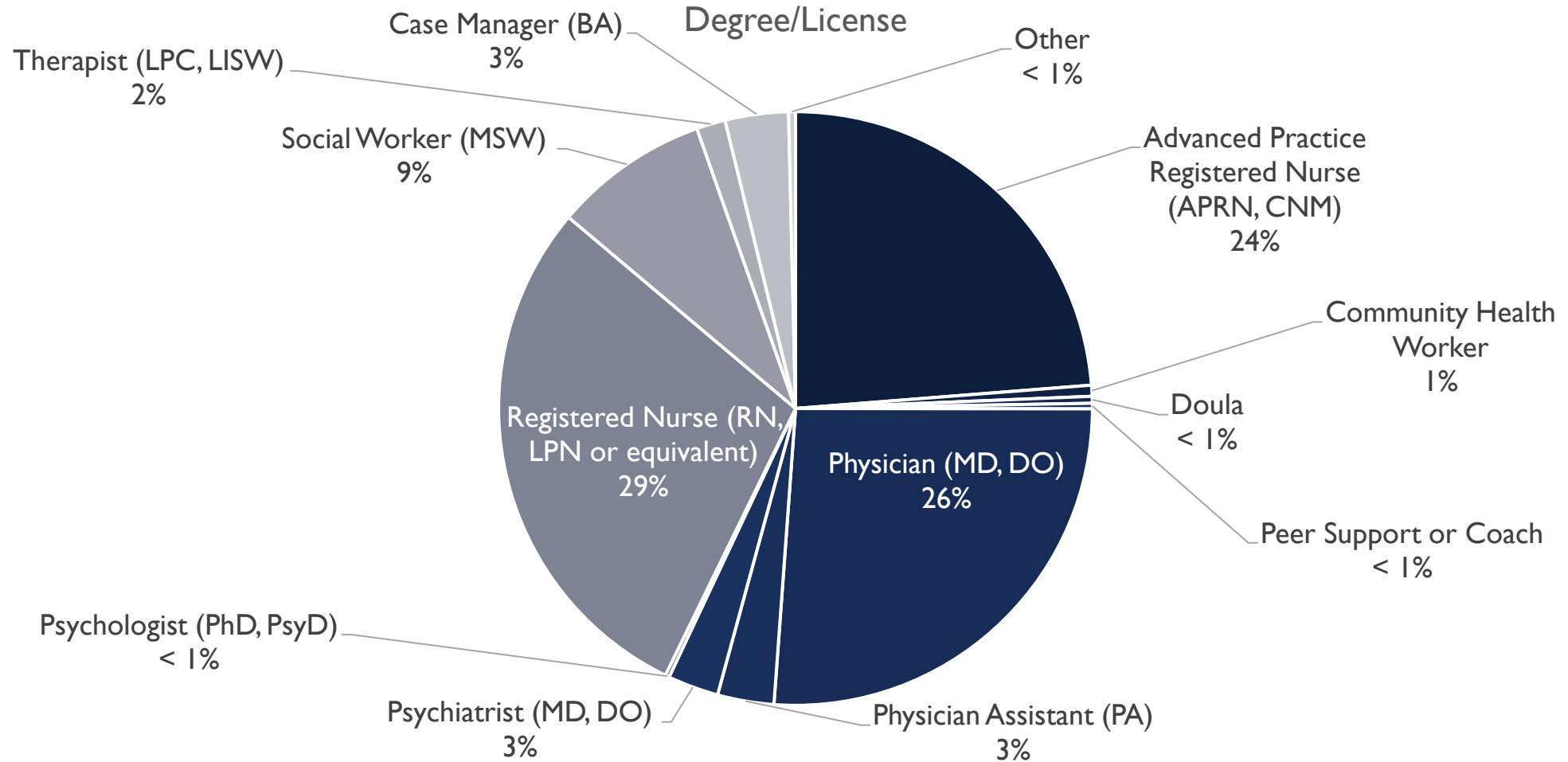
87 provider-to-provider
consultations

SPECIALTIES OF PROVIDERS CONTACTING MOMS IMPACTT



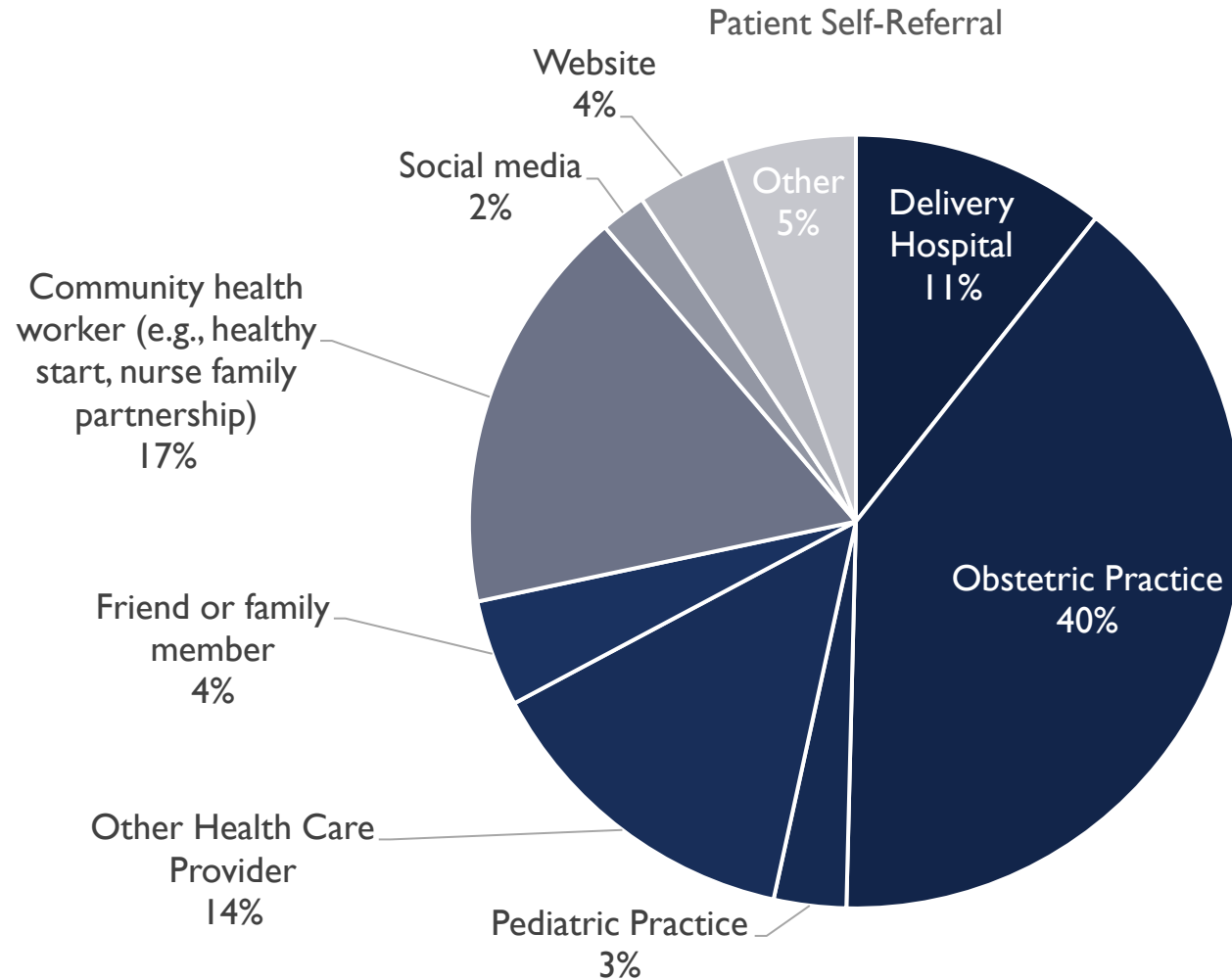
Professional Affiliation

PROFESSIONAL DEGREE OF PROVIDERS CONTACTING MOMS IMPACTT



Professional Degree

HOW PATIENTS HEAR ABOUT MOMS IMPACTT



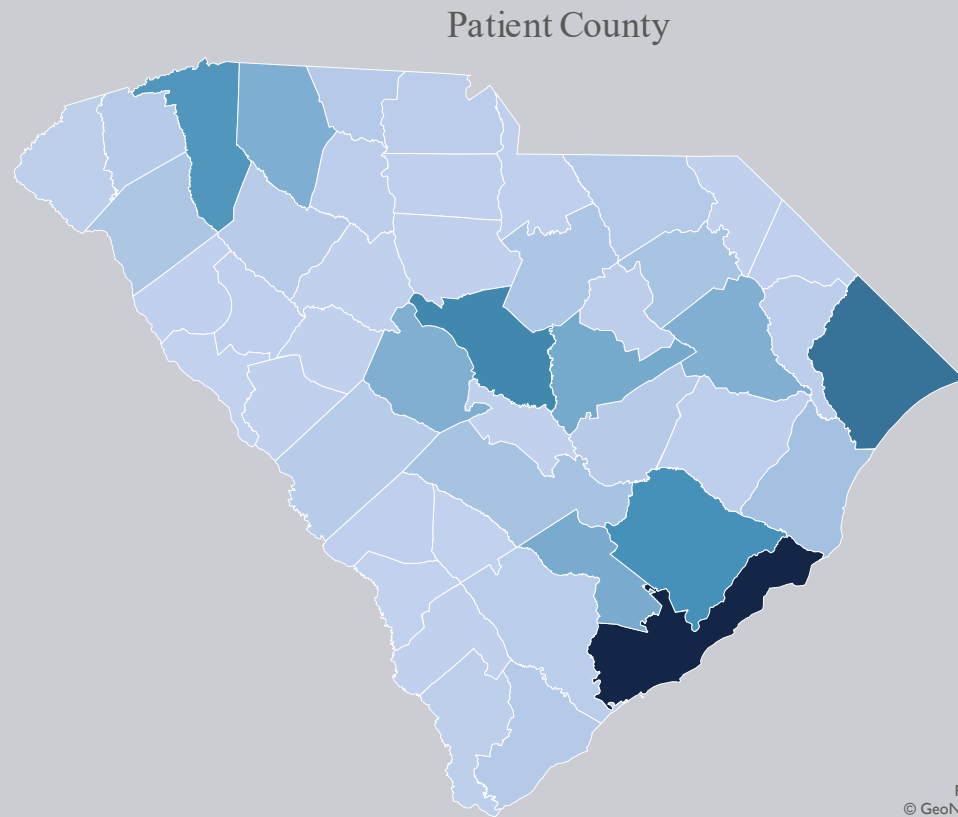
Moms IMPACTT

Patient (Self or Provider) Referrals by County

May 2022- August 2024

- **Goal 2: Patient Access to *MH/SUD Care***

Access to care for 2,858 pregnant and postpartum people from 100% of Counties in SC



Of the 2,858 people:

- 53.3% Patient Self-Referral
- 46.7% Provider Referral

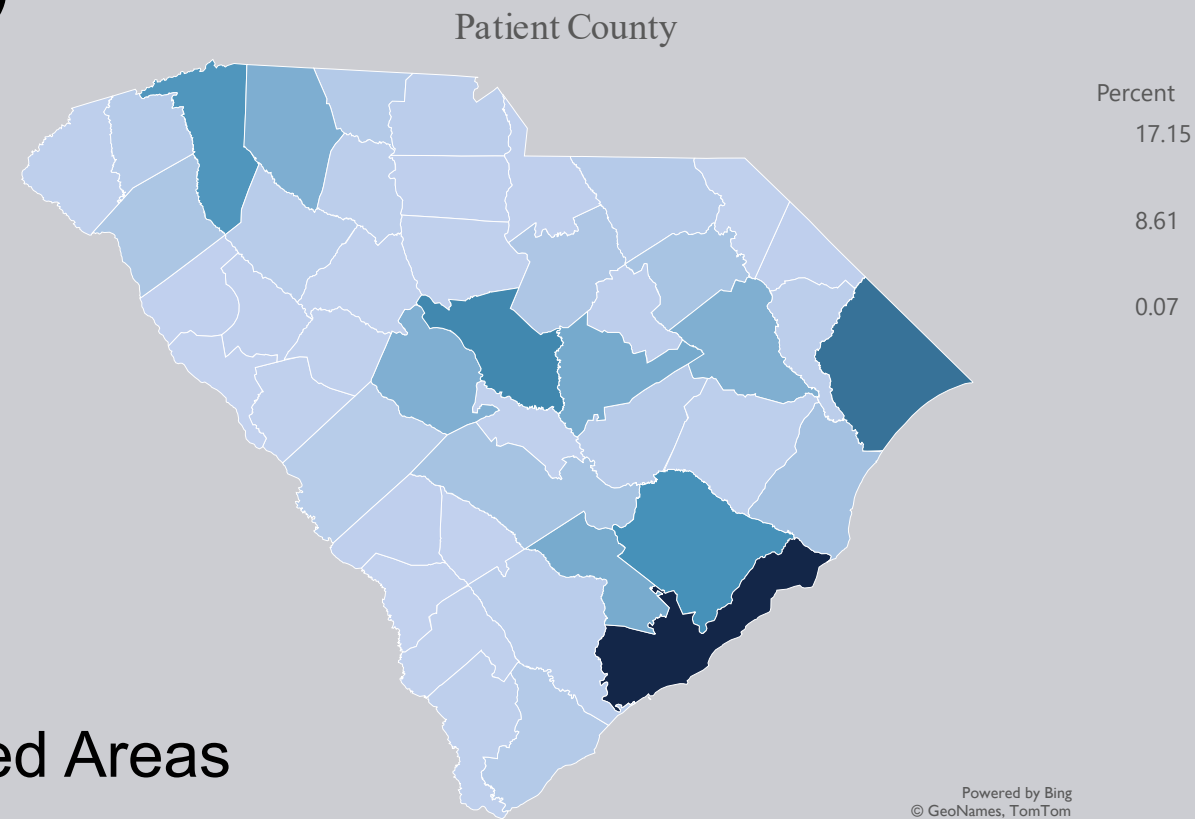
Of the 2,858 people:

- 31.6% Referred to community
- 68.4% Received treatment in our outpatient clinic

Moms IMPACTT

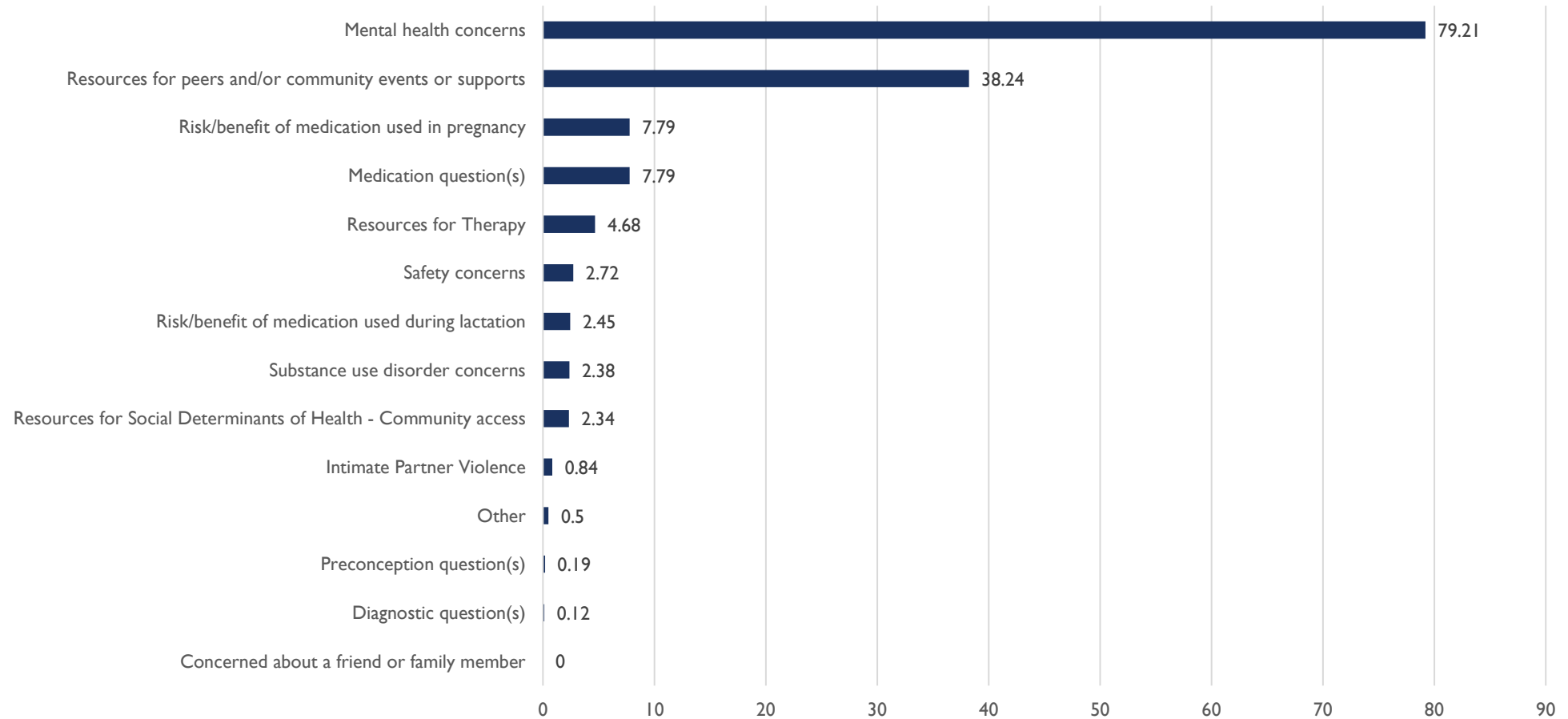
Outcomes: May 2022- August 2024

- Access to care for 2,858 pregnant/postpartum people from 100% of Counties in SC
- Average Age: 28.5 (range 14-46 years old)
- Race/Ethnicity
 - 56.2% White
 - 32.9% Black
 - 0.4 % Native American
 - 7.3% Hispanic
 - 3.2% Other/Mixed Race
- Insurance
 - 54.4% with Medicaid
- Location
 - 90.4% Fully Medically Underserved Areas
 - 46.5% Partially Rural Counties
 - 11.5% Rural Counties



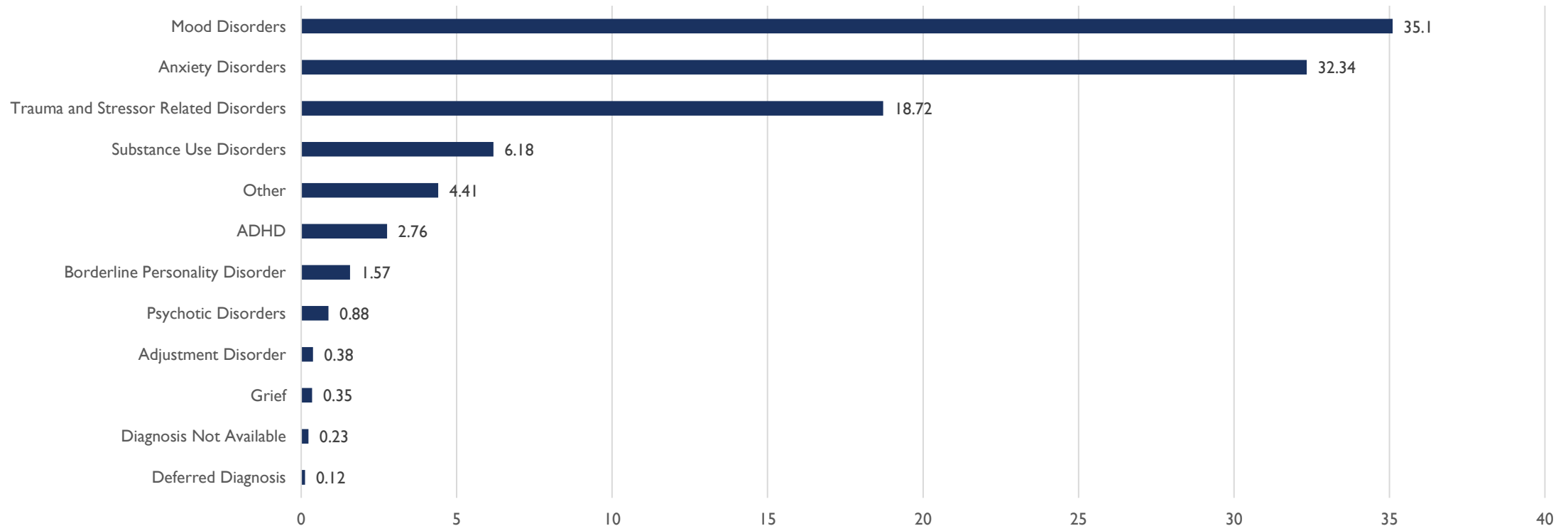
PATIENT (SELF OR PROVIDER) REFERRAL REASON FOR CONTACTING MOMS IMPACTT

% Reason for Contacting Moms IMPACTT



PATIENT (SELF OR PROVIDER) REFERRAL DIAGNOSES DISCUSSED DURING APPOINTMENT WITH PSYCHIATRIST

% Diagnosis Discussed



Summary & Next Steps

Moms IMPACTT

Moms IMPACTT Summary

- Improves access to maternal mental health and substance use disorder treatment
- Support Front-line Providers
 - Specialties
 - Affiliations
 - Geographic Locations
- Treatment & Access to Resources for Patients
- Race/Ethnicity
- Geographic Location
- Insurance Status

Moms IMPACTT Next Steps

- Call for healthcare system level changes, insurance payments, and/or policies to support adoption of access programs
- Continued efforts to support digital literacy, affordable internet service plans, access to broadband and devices with A/V capabilities



Listening to Women and Pregnant and Postpartum People

**(Text/Phone Screening & Referral
Program)**

Listening to Women & Pregnant & Postpartum People



Text Message Based Screening



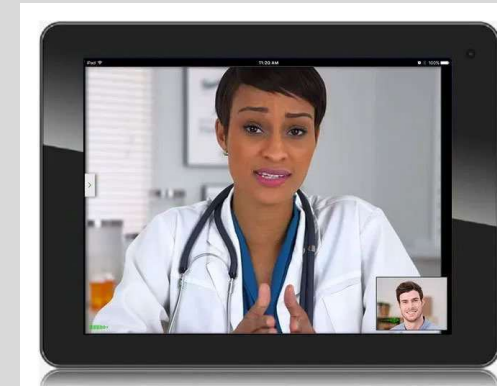
Brief Intervention

Remote Care Coordinator (MSW)



Referral to Treatment

Telemedicine/ Office or Home
Follow up



**Communicate with Ob/Peds
Team**

Screening information
Referral and Tx Progress



Usual Care (UC)



In-Person Screening



Brief Intervention

In-Person Ob/Gyn, CNM



Referral to Treatment

Telemedicine/ Office or Home

Follow up



Communicate with Ob/Peds Team

Screening information
Referral and Tx Progress

**Randomized Controlled
Trial:
LTWP vs UC**

Listening to Women & Pregnant & Postpartum People (LTWP)



Text Message Based Screening



Brief Intervention

Remote Care Coordinator (MSW)



Referral to Treatment

Telemedicine/ Office or Home

Follow up



Communicate with Ob/Peds Team

Screening information
Referral and Tx Progress

Randomized Controlled Trial (n=415 peripartum participants)

Participants assigned to **LTWP**,
compared to in-person **SBIRT** were:

- 3.0 times more likely to be screened
- 3.1 times more likely to screen positive
- 4.4 times more likely to be referred to treatment
- 5.7 times more likely to attend treatment
- Findings consistent in Black, Non-Hispanic & Rural and Partially Rural Populations

RESEARCH ARTICLE | MATERNAL HEALTH

[HEALTH AFFAIRS](#) > [VOL. 43, NO. 4](#): PERINATAL MENTAL HEALTH & WELL-BEING

Text And Telephone Screening And Referral Improved Detection And Treatment Of Maternal Mental Health Conditions

[Constance Guille](#), [Courtney King](#), [Kathryn King](#), [Ryan Kruis](#), [Dee Ford](#), [Lizmarie Maldonado](#), [Paul J. Nietert](#), [Kathleen T. Brady](#), and [Roger B. Newman](#)

[AFFILIATIONS](#) ▾

PUBLISHED: APRIL 2024  **Open Access**

<https://doi.org/10.1377/hlthaff.2023.01432>

Sustainability

- Current funding: NIH, HRSA, PCORI

Estimated cost (~10 practices)

- Medical director (0.1 FTE; MD annual salary 200-250K)
- Program manager (1.0 FTE; annual salary 80-120K)
- Care coordinator (1.0 FTE; MSW annual salary 65-75K)
- Program Coordinator (1.0 FTE; BA annual salary 55K)
- Data Manager (0.5 FTE; annual salary 75-100K)

Potential Billing

LISTENING TO
WOMEN



Healing Equity Advocacy & Respect for Mamas

HEAR 4 Mamas

ADAPTED LTWP TO INCLUDE ALLIANCE FOR INNOVATION ON MATERNAL HEALTH (AIM) SAFETY BUNDLES



■ Postpartum Discharge Transitions

- Summary of birth events
- Emergent/Urgent warning signs/symptoms & who to call
- Attending postpartum care visit
- Birth spacing & contraception
- Breastfeeding
- Well-being, mental health, substance use
- Social determinants of health
- Physical recovery, sleep/fatigue, sexual health, activity
- Medications & chronic conditions

■ Reduction in Racial and Ethnicity Disparities

HEAR 4 Mamas

Healing Equity Advocacy & Respect for Mamas



Daily Text Message Screening
Postpartum Complications & Preventative Care



Brief Evaluation
Remote Advanced Practice Provider (CNM, FNP)



Education, Treatment & Referrals to
Treatment & Resources



Communicate with Ob/Peds
Team
Screening, Tx information
Referral and Tx Progress

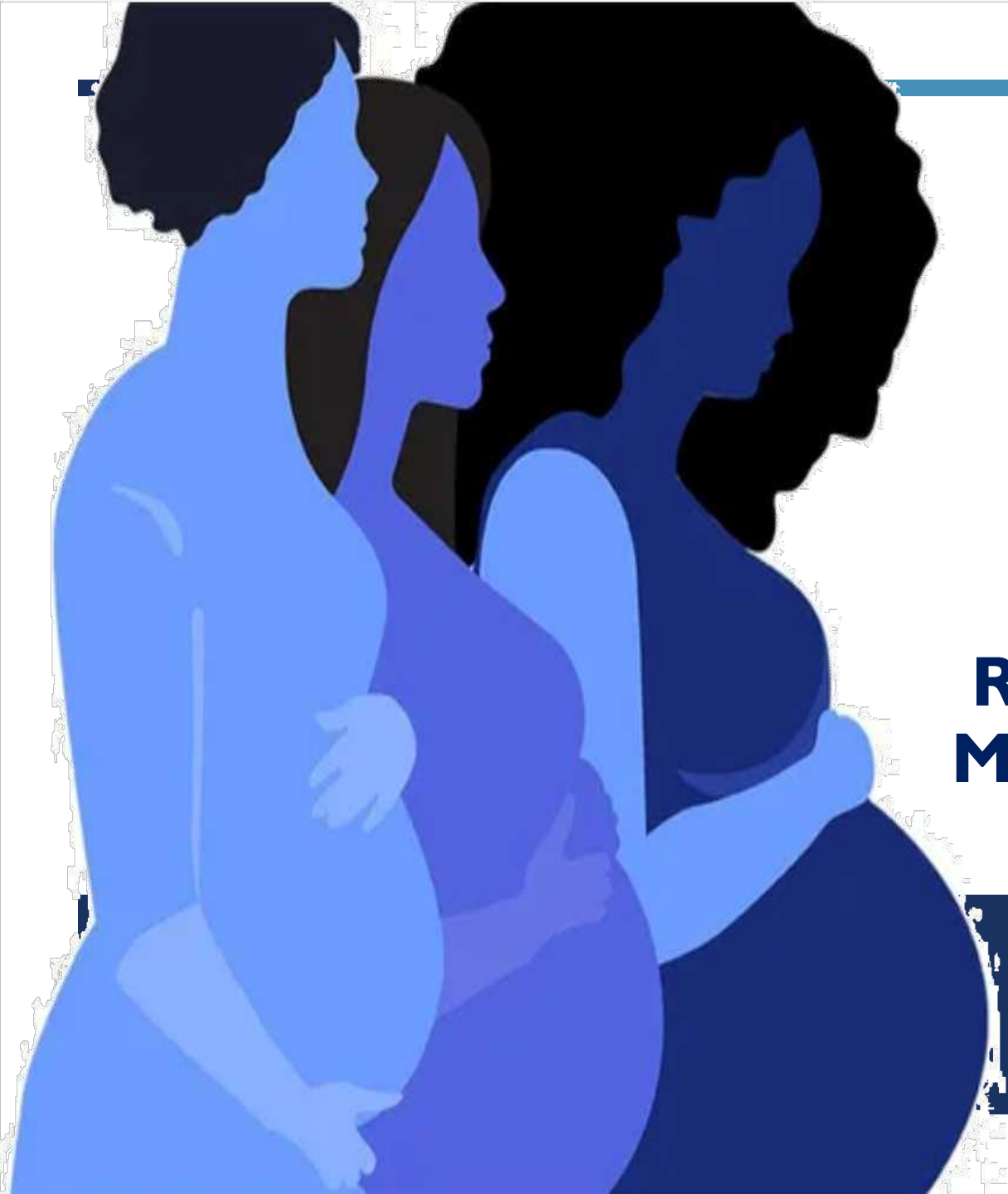


AIMs Safety Bundles

- Emergent/Urgent warning signs/symptoms & who to call
- Postpartum care visit
- Birth spacing, contraception
- Breastfeeding
- Well-being, mental health, SUD
- Social determinants of health
- Physical recovery, sleep/fatigue, sexual health, activity
- Medications & chronic conditions
- Racial and Ethnicity Disparities

SOUTH CAROLINA STATEWIDE STUDY RECRUITMENT

- Inform all pregnant individuals insured by Medicaid about the study
 - Study to support postpartum individuals' health and well-being following delivery
 - Nurse Advocate, address health concerns or questions, provide resources, make sure your concerns are heard.
 - Provide Study Flyer
 - Ask if interested in study team contacting them
 - If yes, provide name and contact information through secure HIPAA compliant survey.



ReBIRTHed: Mothers Serving Mothers in Recovery and Birth

REBIRTHED

-
- SC state pilot program
 - Leverages and expands IMPACTT:
 - Immediate access to POUD treatment
 - Addition of Peer Recovery Doulas
 - Centralized location
 - Ongoing monitoring of mother/caregiver-child dyad
 - Expanded outreach to high-risk populations

REBIRTHED

Outcome data

- First 6 months: served 52 pregnant and postpartum people with PSUD
- 100% reside in counties designated as fully Medically Underserved areas
- 80% reside in counties designated as fully rural
- 84% insured by Medicaid

Peer Recovery Doula Support

- 16 referred to Doula services
- 13 remained engaged

Community-Based Doula Training for Peer Support Specialists

- Trained 10 peer support specialists as community doulas
- 7 have completed requirements for full certifications
- 83% reside (and intend to serve) in rural communities
- Goal: 36 Peer Recovery Doulas by October 2026

Sustainability

- SAMHSA award ends 9/30/26

Estimated cost

- Program Director (1.0 FTE; PhD annual salary 80-120K)
- Care coordinator (1.0 FTE; MSW annual salary 65-75K)
- Peer Recovery Doula (3.0 FTE; CPSS/CD annual salary 55K)
- Program Coordinator (0.25 FTE; BA annual salary 55K)
- Reproductive Psychiatrist (0.1 FTE; MD annual salary 200-250K)

Potential Billing

REBIRTHED

Acknowledgements

Peripartum Individuals Taking
Part in Research & Clinical
Care

Funding

- DAODAS
- Duke Endowment
- NIH (NIDA/ORWH/NICHD)
- HRSA
- SAMHSA

Technology & Data Analyses

- John Clark, MA
- Lizmarie Maldonado, MSPH
- Erin Quigley, BA

Telehealth Center of Excellence

- Dee Ford, MD
- Katie King, MD, MPH
- Ryan Kruis, LISW
- James McElligott, MD
- Rebecca Beeks, BA

ACKNOWLEDGEMENTS: WRBH DIVISION

Clinic Director, Rubin Aujla, MD

Physicians
Dawn Boender, MD
Melissa Kennedy, MD (fellow)
Liz Monter, DO
Claire Smith, MD
Christina Tolbert, MD
Erin Phlegar, PA-C

Edu Director, Claire Smith, MD

Residents
Dr. Turnery Byers
Dr. Alana Dopp
Dr. Amy Duvall
Dr. Logan Hobus
Dr. Jameson Snead
Dr. Stephanie Vaughn

Therapy Supervisor, Liz Parker, LPC-S

Therapists
Tara Ancrum, LPC
Victoria Bowen, LPC
Michelle Hammack, LPC
Marie Hayes, PhD
Liz Parker, LPC, LPCS
Caitlin Shadek, MSW
Jacey Verdicchio, LPC-A
Sara Witcraft, PhD

Care Coordinators

Care Coordination
Kerry Blome, LISW-CP
Avohdon Mccaskill
Amanda Sanford, LMSW
Katherine Wallace, LMSW
Chinese Clinton, FNP
Stephanie Jones, MSW

Assoc. Dir. Research, Courtney King, PhD

Research Faculty & Staff
Sara Witcraft, PhD
Leah Holcomb, PhD
Edie Douglas, MPH
Bella Dubnick, MPH
Tychia Brown, BA
Maham Dilawar, MD
Myranda Reppart, MPH
Abbie Broadhead, BA
Sarah Rowell, MPH
Ellen Gomez, MA
Ashleigh Kormelink, BA
Mia Kim, BA
Lucrecia Mitchell, MSW
Reese Terry, BA
Colleen Geis, CPSS
Claire Johnson, BA

REFERENCES

- World Health Organization. Guide for Integration of Perinatal Mental Health in Maternal and Child Health Services. (2022, September 19). Retrieved from <https://www.who.int/publications/i/item/9789240057142>
- Centers for Disease Control and Prevention. Identifying Maternal Depression (2020). Retrieved from <https://www.cdc.gov/reproductivehealth/vital-signs/identifying-maternal-depression/index.html>
- Trost, S., Beauregard, J., Chandra, G., et al. (2022, September 19). Pregnancy-related deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017–2019. Centers for Disease Control and Prevention. Retrieved from <https://www.cdc.gov/reproductivehealth/maternal-mortality/erase-mm/data-mmrc.html>
- Bauman B.L., Ko J.Y., Cox S., et al. Vital Signs: Postpartum Depressive Symptoms and Provider Discussions About Perinatal Depression — United States, 2018. MMWR Morb Mortal Wkly Rep 2020;69:575–581. Retrieved from <http://dx.doi.org/10.15585/mmwr.mm6919a2>
- Chin K, Wendt A, Bennett IM, Bhat A. Suicide and Maternal Mortality. *Curr Psychiatry Rep.* 2022 Apr;24(4):239-275. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8976222>
- Kozhimanill, K., Trinacty, C., Busch, A., et al. (2011), Racial and ethnic disparities in postpartum depression care among low-income women. *Psychiatric Services*. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/21632730/>
- Heck, Jennifer L. Postpartum Depression in American Indian/Alaska Native Women: A Scoping Review. *MCN, The American Journal of Maternal/ Child Nursing* 46(1):p 6-13, January/February 2021. Retrieved from https://journals.lww.com/mcnjournal/Abstract/2021/01000/Postpartum_Depression_in_American_Indian_Alaska.2.aspx
- Keefe, R. H., Brownstein-Evans, C., & Polmanteer, et al. (2018). The Challenges of Idealized Mothering: Marginalized Mothers Living With Postpartum. *Affilia*, 33(2), 221–235. Retrieved from <https://doi.org/10.1177/0886109917747634>
- ACOG. (2017). ACOG Committee Opinion. Opioid Use and Opioid Use Disorder in Pregnancy.
- Miranda, Leticia, et al. "How States Handle Drug Use During Pregnancy." projects.propublica.org/graphics/maternity-drug-policies-by-state.
- Schempf, A.H. & Strobino, D.M. *American Journal for Obstetrics and Gynecology*, 2004. 412.e1-412.e10.
- Screening and Diagnosis of Mental Health Conditions During Pregnancy and Postpartum: ACOG Clinical Practice Guideline No. 4. (2023). *Obstetrics and gynecology*, 141(6), 1232–1261. <https://doi.org/10.1097/AOG.00000000000005200>
- Luca DL, Margiotta C, Staatz, C, Garlow E, Christensen A, and Zivin K. (2020) Financial Toll of Untreated Perinatal Mood and Anxiety Disorders Among 2017 Births in the United States.