

# Perinatal Behavioral Health: Effects and Interventions

Heather A. Flynn, PhD  
Professor and Chair

Department of Behavioral Sciences and Social Medicine  
FSU College of Medicine

Director, FSU Center for Behavioral Health Integration  
President, International Society for Interpersonal Psychotherapy



THE FLORIDA STATE UNIVERSITY  
COLLEGE OF MEDICINE

# DSM-5 Major Depressive Episode (MDE)

At least 2 weeks or more, clear change from previous state, and interfere with functioning:

Sad, depressed, or irritable mood

Loss of interest or pleasure

Significant sleep loss / gain

Sleep disruption

Loss of energy fatigue nearly every day

Significant appetite changes

Thoughts of death or dying

Concentration / decision-making difficulties

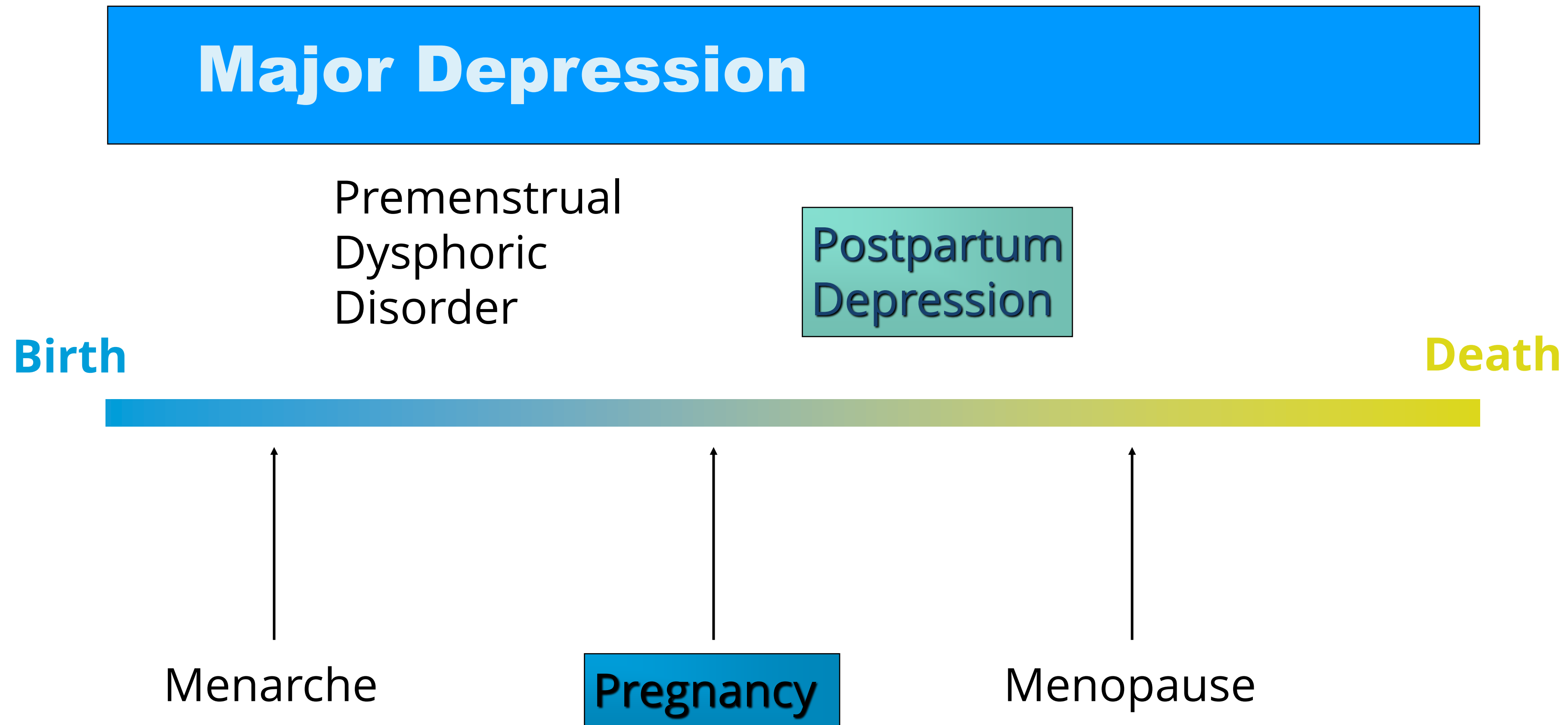
Worthlessness or excessive guilt

# Features of Perinatal Depression

Mood, interest, appetite,  
sleep, guilt /  
worthlessness,  
psychomotor sx,  
concentration, death  
/suicide

Anxiety, obsessiveness  
regarding infant safety,  
dystonic thoughts of  
infant harm, fear of  
returning to work

# Episodes of Depression Through a Woman's Lifecycle



# Depression & Childbearing Prevalence

1. Evans J, et al. *BMJ*. 2001;323:257-260;
2. O'Hara M, Swain A. *Int Rev Psychiatry*. 1996;8(1):37-54. 3. Gale & Harlow. *J Psychosom Obstet Gynaecol*. 2003;24(4):257-66

Depression in Pregnancy 14%<sup>1</sup>

Postpartum Depression 10%-15%, cross-culturally<sup>2</sup>

Postpartum Blues 50%-85%<sup>3</sup>

Postpartum Psychosis 1-2/1000<sup>3</sup>

# Prevalence of Postpartum Depression

No different from age matched non-childbearing women (O'Hara et al., 1990; AHQR, 2005)

13% cross-culturally (O'Hara & Swain, 1996)

Higher rates found using:

**Self-report symptom measures**

**Longer assessment periods (12 month period prevalence = 30%)**

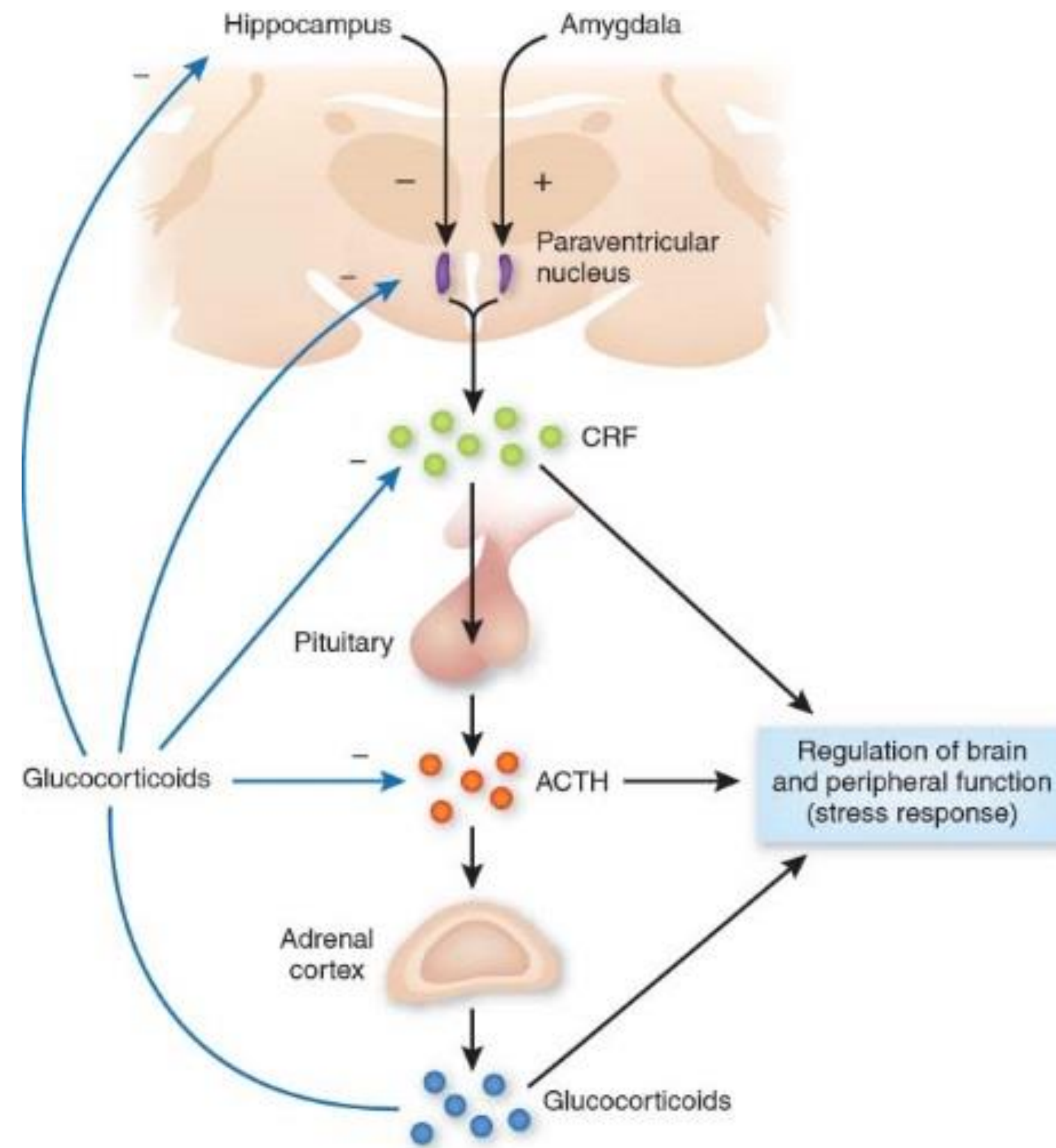
**Lower SES women - 25% (structured interviews) to 47% (self report)**

# Human Costs of Depression in Mothers

Effects of Depression with Human Costs	
Mother	Child
<p>Insecure attachment with child</p> <p>Dissatisfaction with parenting role</p> <p>Poor coping with stress</p> <p>Poor relationships with child and others</p> <p>Chronic sadness</p> <p>Hopelessness</p> <p>Low self-esteem</p> <p>Suicidality</p> <p>Domestic violence</p> <p>Anxiety</p> <p>Increased risk for substance abuse</p> <p>Social isolation and decreased community engagement</p> <p>Poor quality of life</p>	<p>Basic physical and emotional needs unmet</p> <p>Failure to learn self-regulation skills</p> <p>Unhappiness</p> <p>Harsh and non-nurturing environment</p> <p>Unstimulating environment undermines learning</p> <p>Cognitive delays</p> <p>Poor social skills</p> <p>Poor relationships with peers</p> <p>Biological over-reactivity to stress</p> <p>School underachievement</p> <p>Poor physical health</p>



# Hypothalamic Pituitary Adrenal Axis





# What happens in the womb sets up lifelong health trajectory

- Pregnancy and the Intrauterine environment are crucial for risk of development of hypertension, diabetes, coronary heart disease, metabolic disorders, pulmonary, renal and mental illnesses lifelong for the child.
- Depression and anxiety in pregnancy are among the most common and impactful

# Hundreds of studies and Research Syntheses find an independent association of prenatal and postnatal depression to an array of infant and child outcomes

Prenatal depression associated with:

- Preterm birth and other birth complications
- Fetal activity and stress hormones
- Motor abilities and adaptive behavior development

Postnatally:

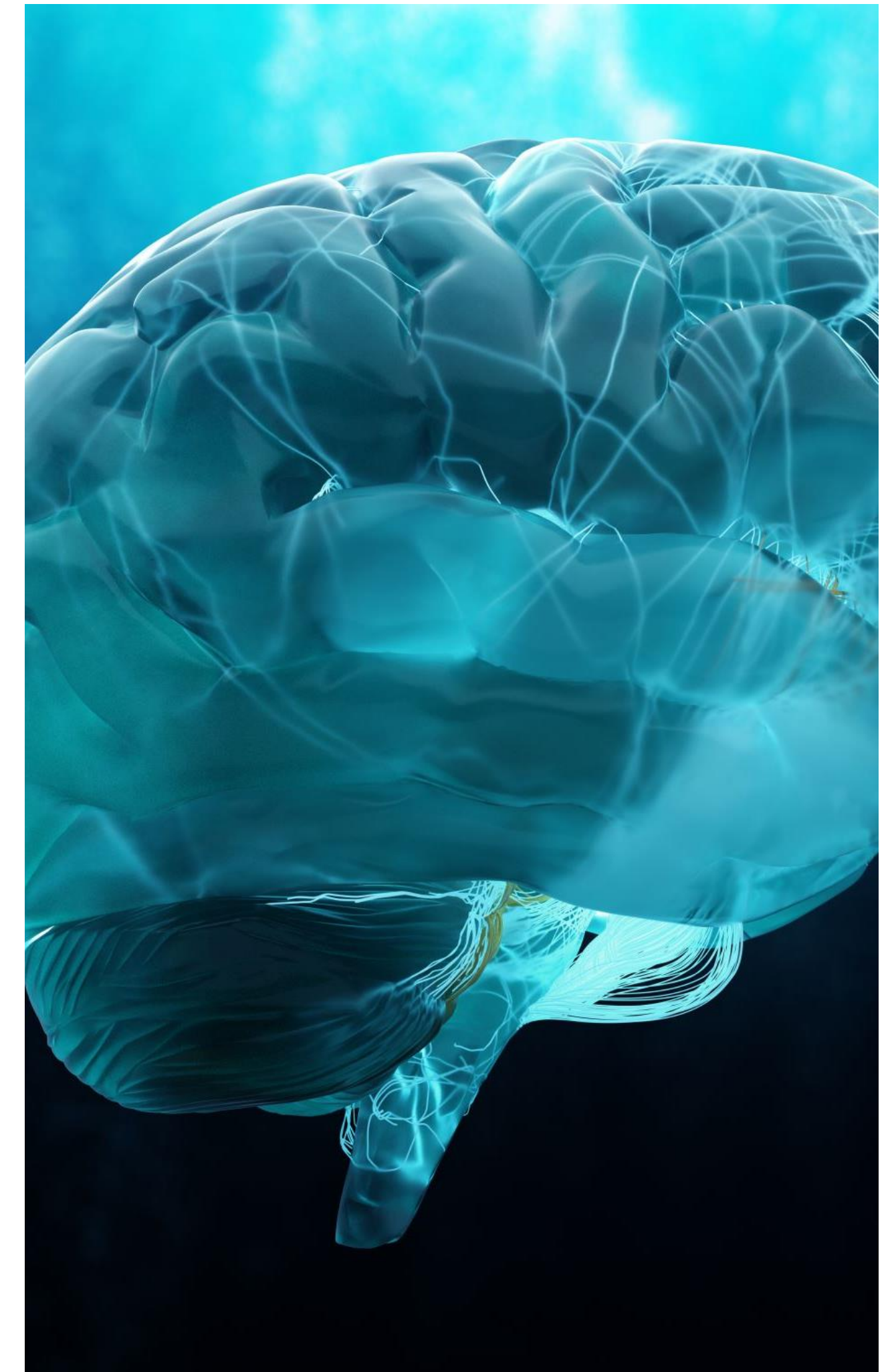
- Cognitive and language development
- Social – emotional development
- Prosocial behaviors
- Pre and postnatal attachment
- Responsiveness to Infant cues
- Health care Use

## **Fetal Programming: prenatal stress and other exposures alter fetus and genetic expression through placenta**

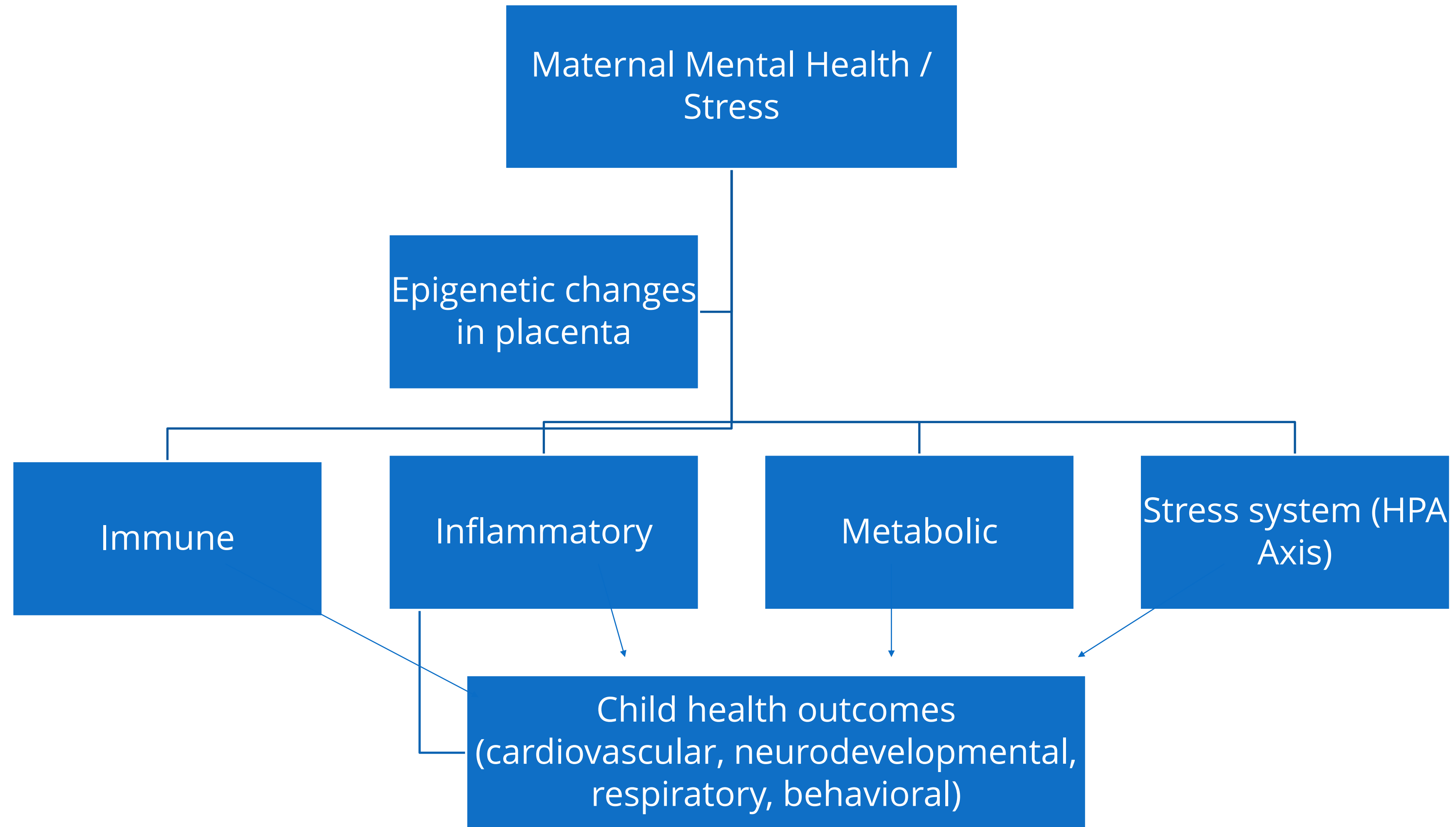
Stress, anxiety and depression act at the molecular level through the HPA axis. Have been linked to risk of miscarriage, reproductive tract infection, and preterm birth.

The Blood Brain Barrier is not fully developed during the fetal period, so certain molecules affected by infection, trauma or stress can directly expose the brain in a way that negatively impacts neurodevelopment.

In vivo brain imaging research: Maternal stress is associated with changes in limbic and frontotemporal networks, and the functional and microstructural connections linking them. The structural changes include cortical thinning and an enlarged amygdala.



# Prenatal Maternal Health Programs Genetic Expression of Children and sets pathway of lifelong health

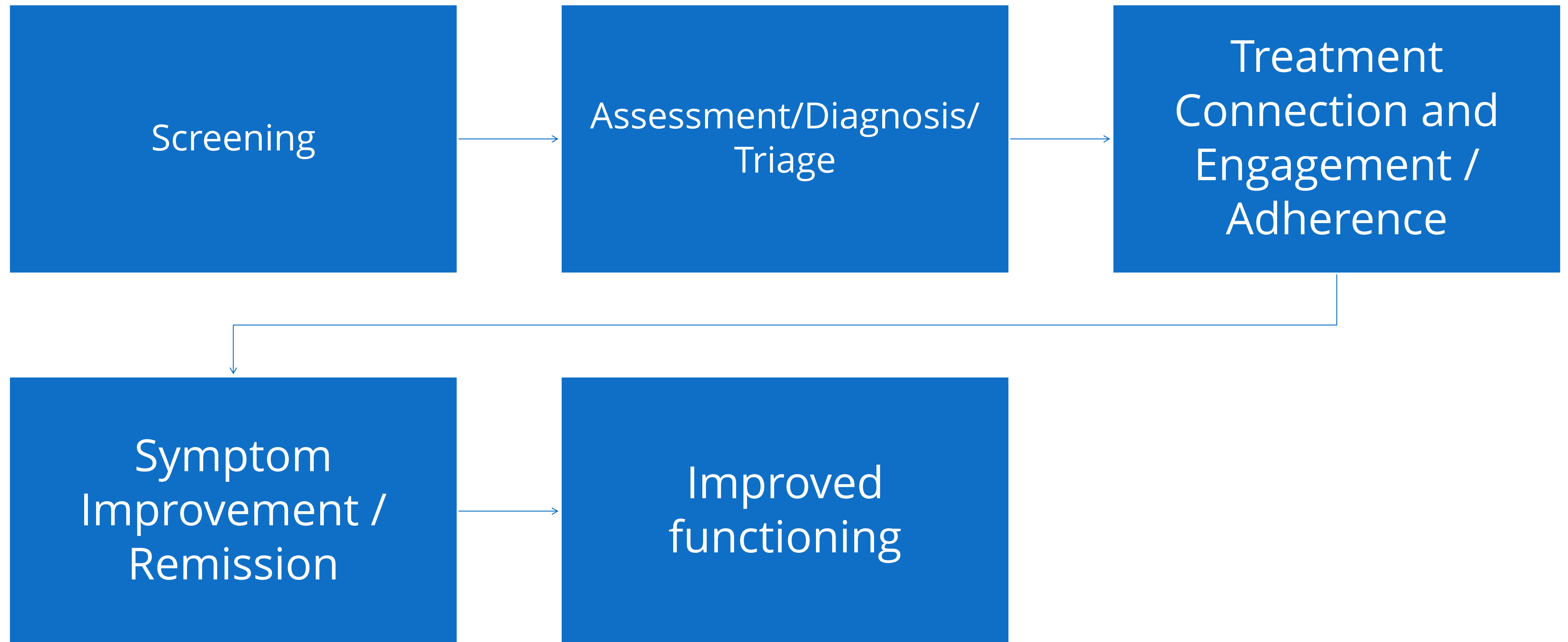




## Effects of stress on infant developing brain

- Stress and resilience affect the brain and body from conception and throughout developments, and at critical and sensitive period of risk.
- Some neural mechanisms of stress and resilience:
  - Fear Responsiveness
  - Adaptive Social Behavior
  - Reward and Motivation
- <http://developingchild.harvard.edu/science/key-concepts/toxic-stress/>

## Detection / Intervention / Outcomes Cascade





## **Florida BH IMPACT**

Improving Maternal and  
Pediatric Access, Care and  
Treatment for Behavioral Health

**1.833.951.0296 • [FLBHimpact.org](https://FLBHimpact.org)**

This project was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of award UK3MC32242 totaling \$3.25million. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit [HRSA.gov](https://HRSA.gov).



# Florida BH IMPACT

## Vision

*No perinatal woman in the state of Florida will be un-treated for perinatal behavioral health disorders.*

# About the Florida Perinatal Behavioral Health Screening & Treatment Program

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The Florida BH IMPACT Program is an initiative by the Florida Department of Health (DOH), Florida State University (FSU) College of Medicine, and the Florida Maternal Mental Health Collaborative (FLMMHC). BH IMPACT provides direct supports to promote maternal and child health by building the capacity of health care providers who are addressing critical behavioral health issues with their patients.

# Florida BH IMPACT

## Partners

Florida Department of Health

Florida State University College of Medicine

University of Florida

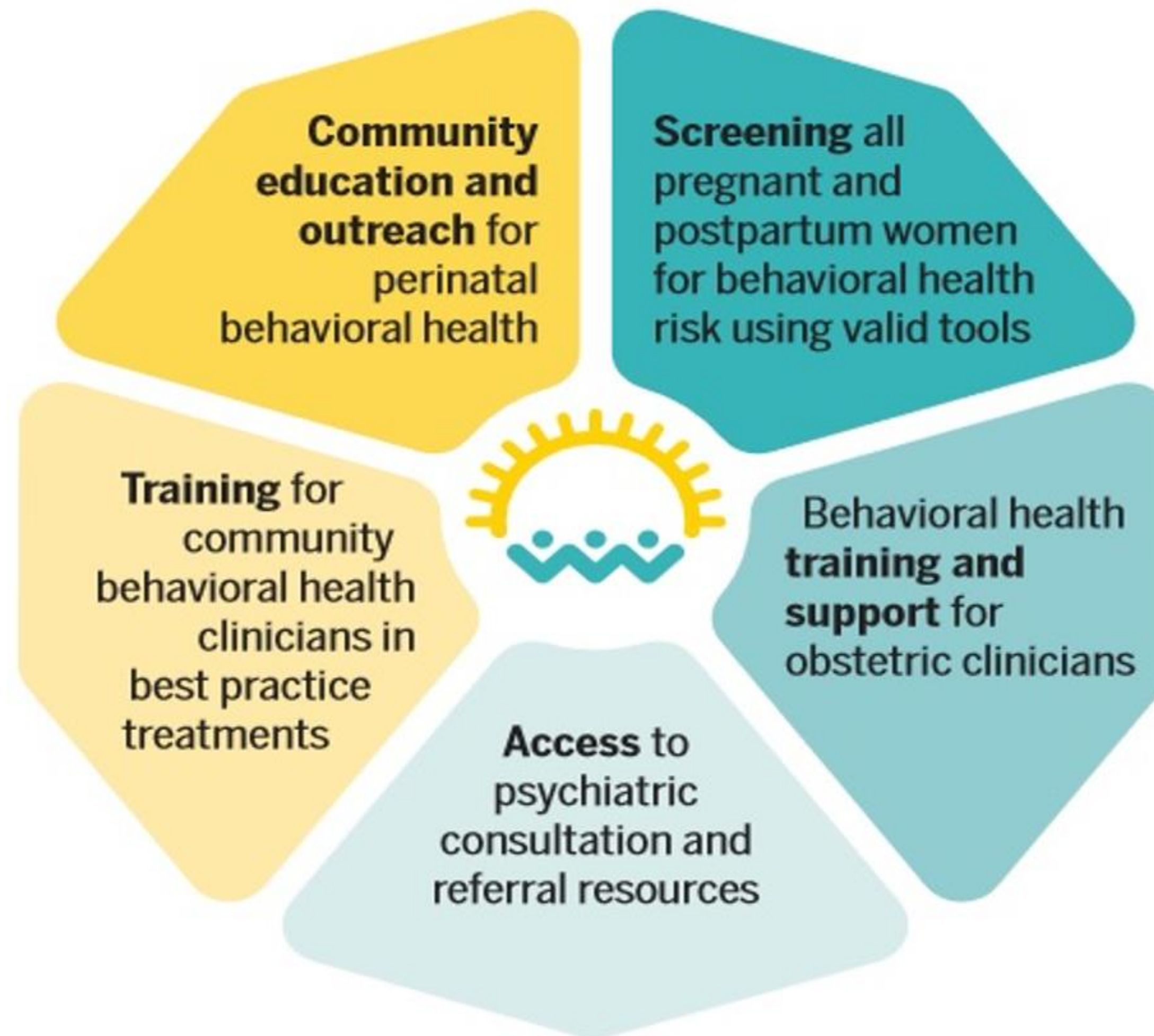
Florida Association of Healthy Start Coalitions (Moving Beyond Depression)

Florida Maternal Mental Health Collaborative

Sunshine Health

# Florida BH IMPACT

## Core Components



# Florida BH IMPACT currently costs \$650,000 per year

## Untreated PMADs cost \$14 Billion annually

Cost per Birth w/ untreated PMADs  
\$32,000 / year



Cost of BHIMPACT Program per birth in FL  
\$650,000 / 216,189 total births in FL (2021)  
\$3 / per birth per year  
\$0.25 / per birth per month



216,189 births in Florida (2021)  $216,189 * 1/7$   
1 in 7 w/ PMADs = 30,893 births w/untreated PMADs  
Cost of untreated PMADs = \$988,576,000 per year

30,893 births x \$32,000/year



\$650,000 per year = Total cost of the Florida BH IMPACT program

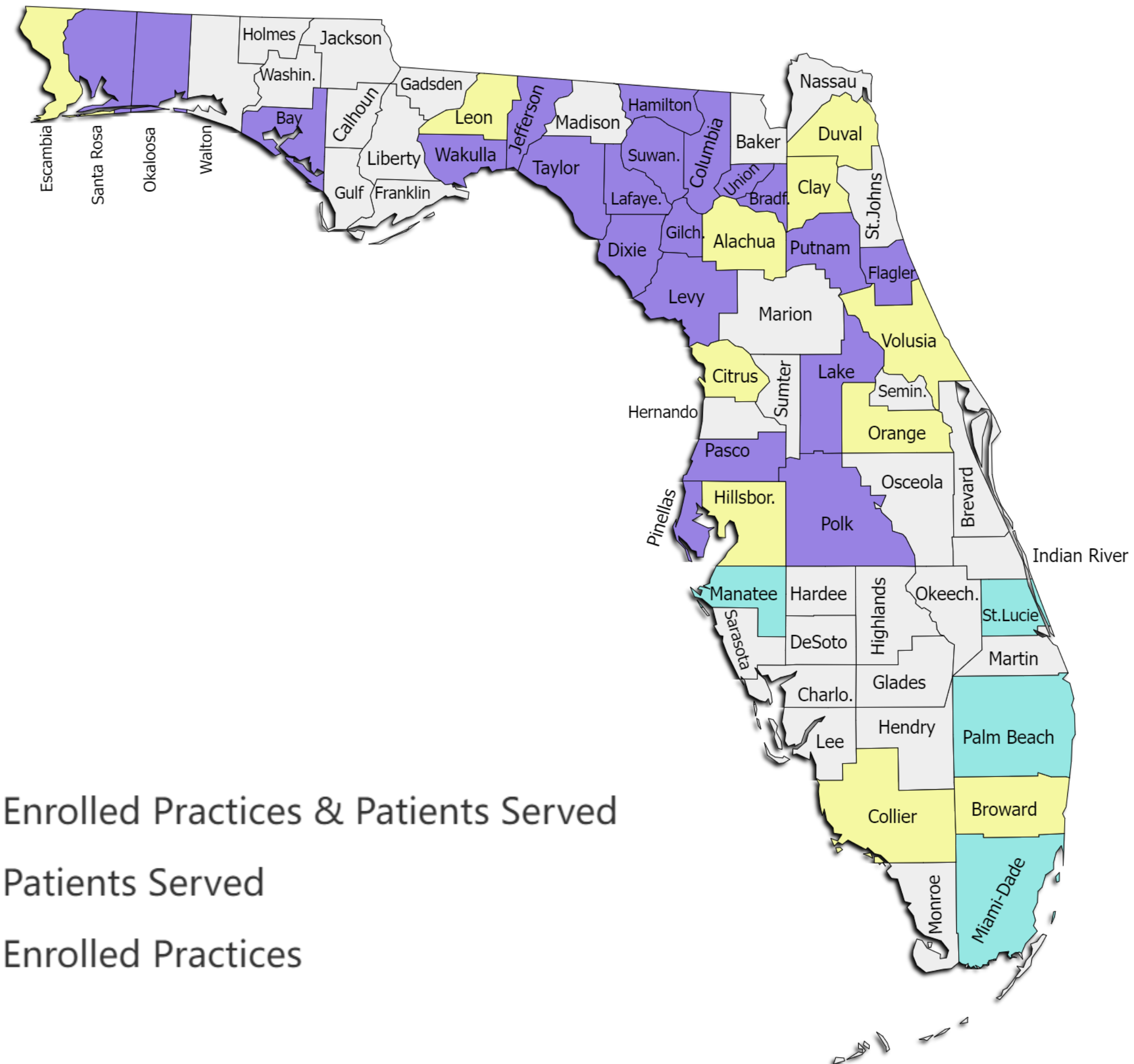




# BH IMPACT Program Outcomes To Date

Due to an increased interest in the program from other regions of Florida, the program received permission from HRSA to begin enrolling and training providers from across the State.

Today, we have **enrolled obstetric providers from 20 counties** and served **patients from 34 counties** across the state and 3 counties in Georgia.



# BH IMPACT Program Outcomes To Date

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**30 Practice Enrolled**

**326 Providers Enrolled** within those Practices

**57 Training Events** including Practice-level Trainings, Behavioral Health Provider Training Events, and Grand Rounds

**2165** providers trained

**390 Encounters** with the Access Line

**357 Patients** Supported

**45 Monthly Newsletters** sent to a listserv of over 1,200 subscribers

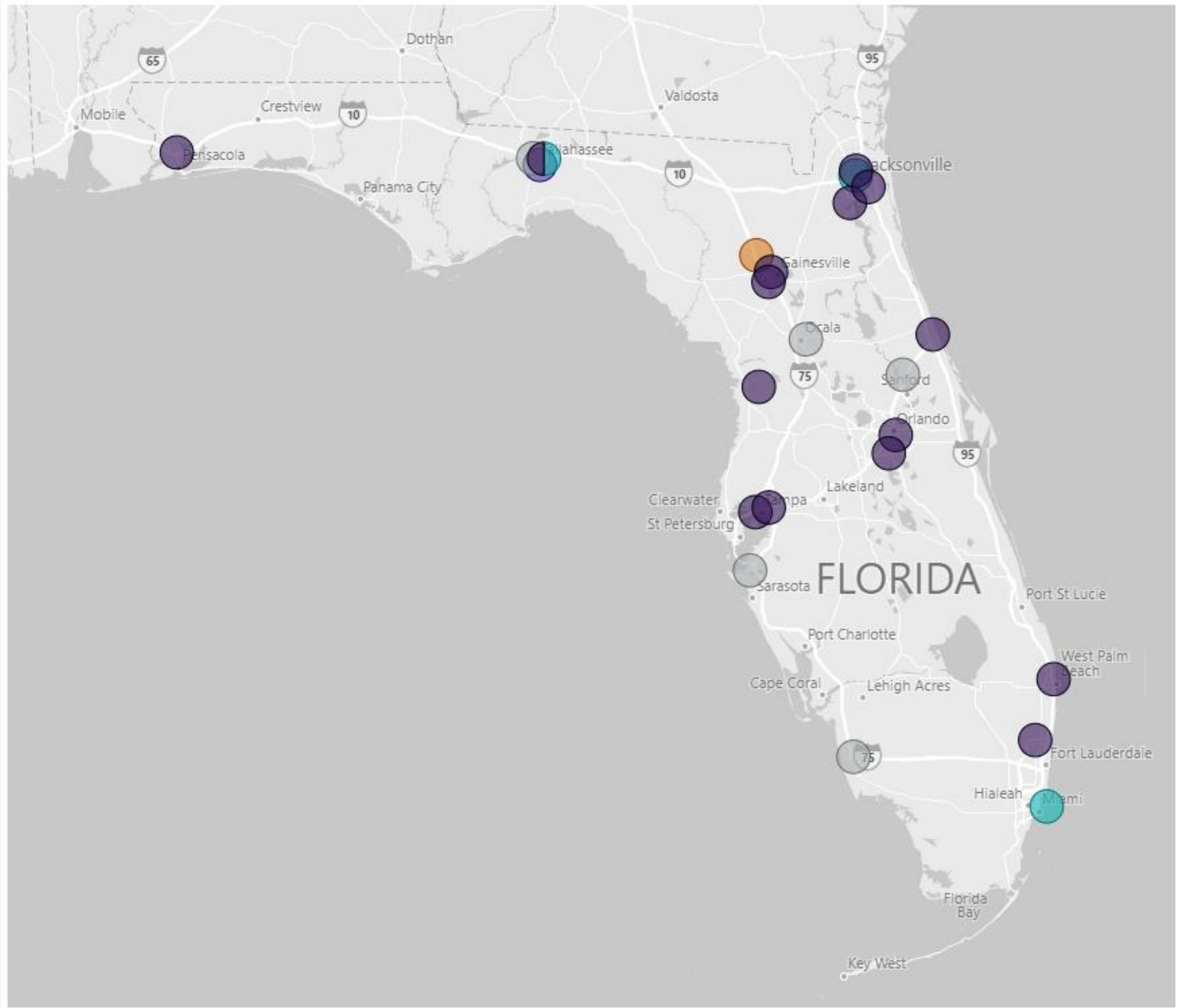
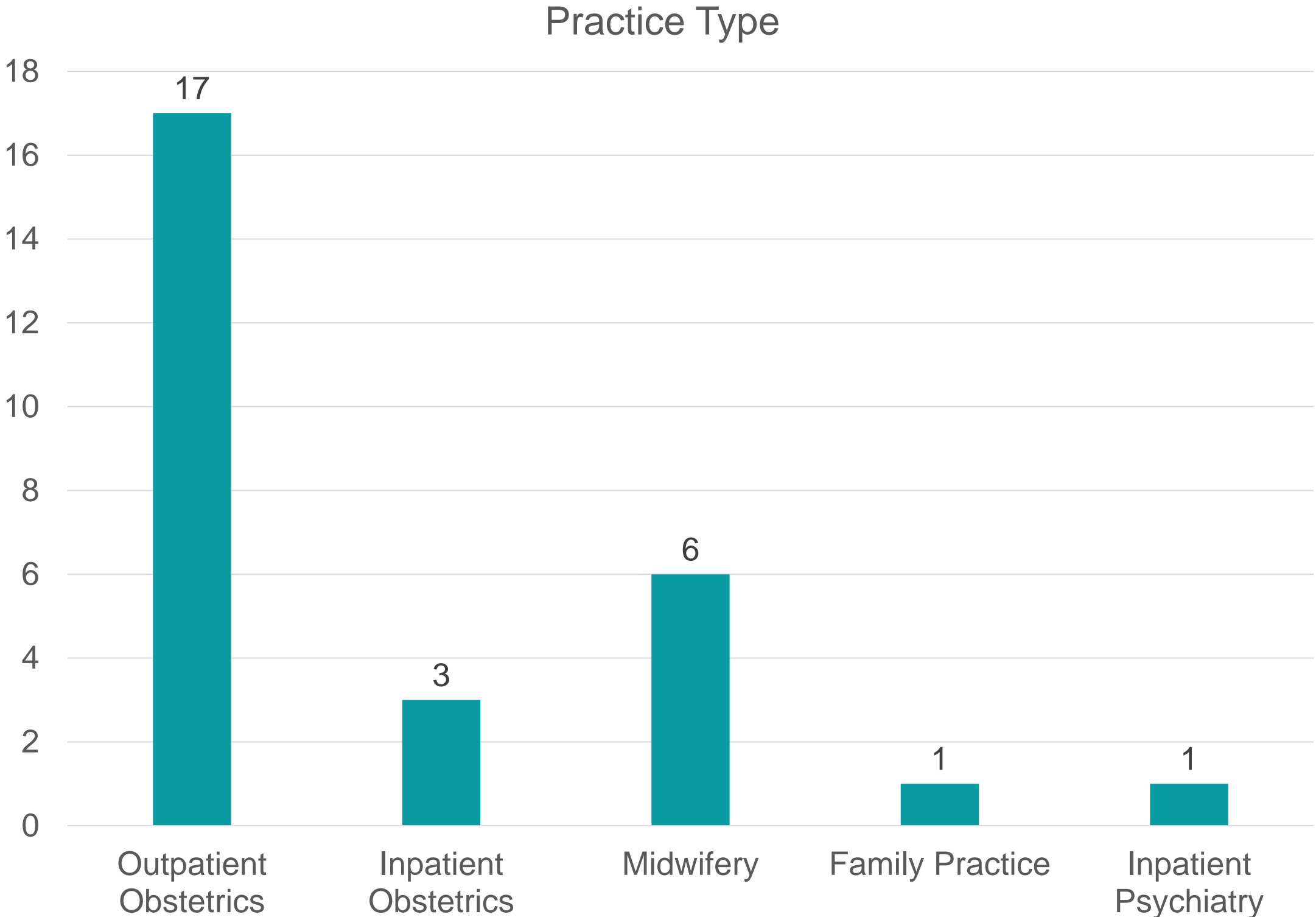
Over **2,600 visitors** to the Florida BH IMPACT Website

- Over 23,000 pageviews
- Over 400 returning users during the past year



# Enrolled Practices

**28 Enrolled Practices**  
**374 Enrolled Practice Providers**



Practice Type ● Family Practice, NOS ● Inpatient Obstetrics, NOS ● Inpatient Psychiatry, NOS ● Midwifery, NOS ● Outpatient Obstetrics, NOS

# Florida BH IMPACT

## Care Team

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**Heather Flynn, Ph.D.**  
PROGRAM DIRECTOR



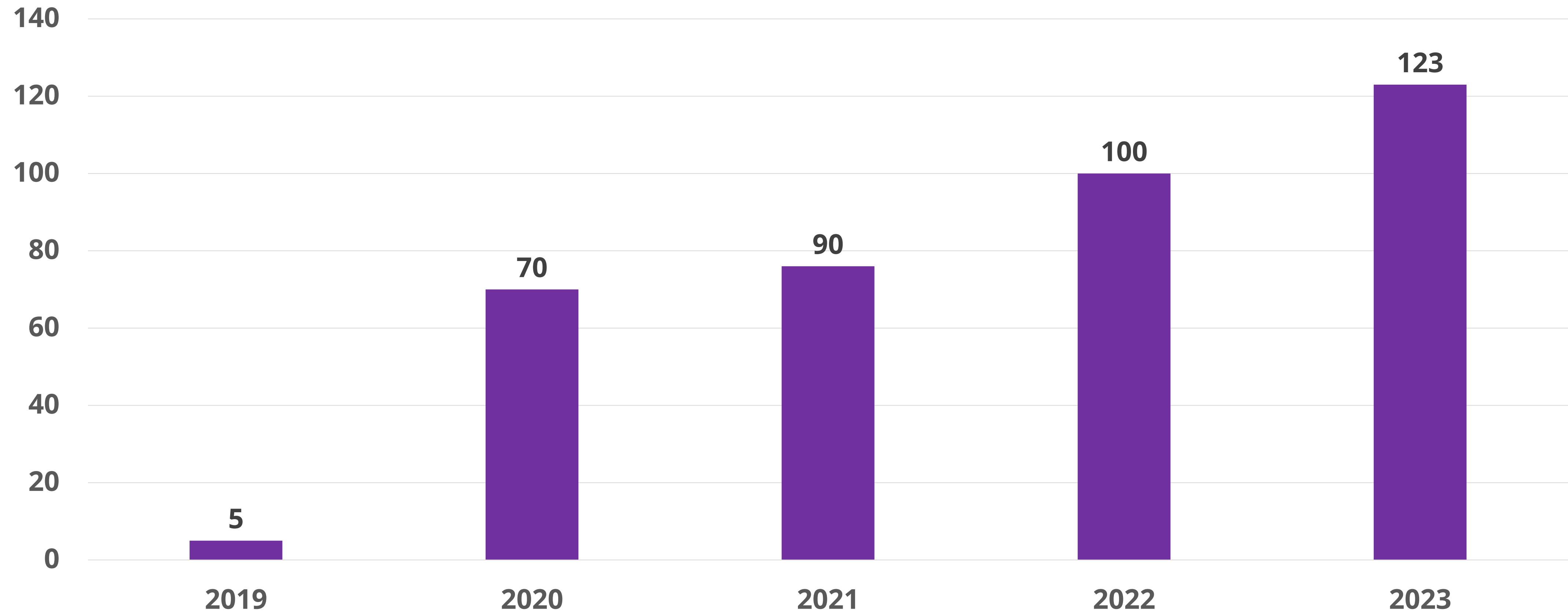
**Dikea (Kay) Roussos-Ross, MD**  
PSYCHIATRIST



**Amandla Shabaka-Haynes, MD**  
RESOURCE & REFERRAL SPECIALIST

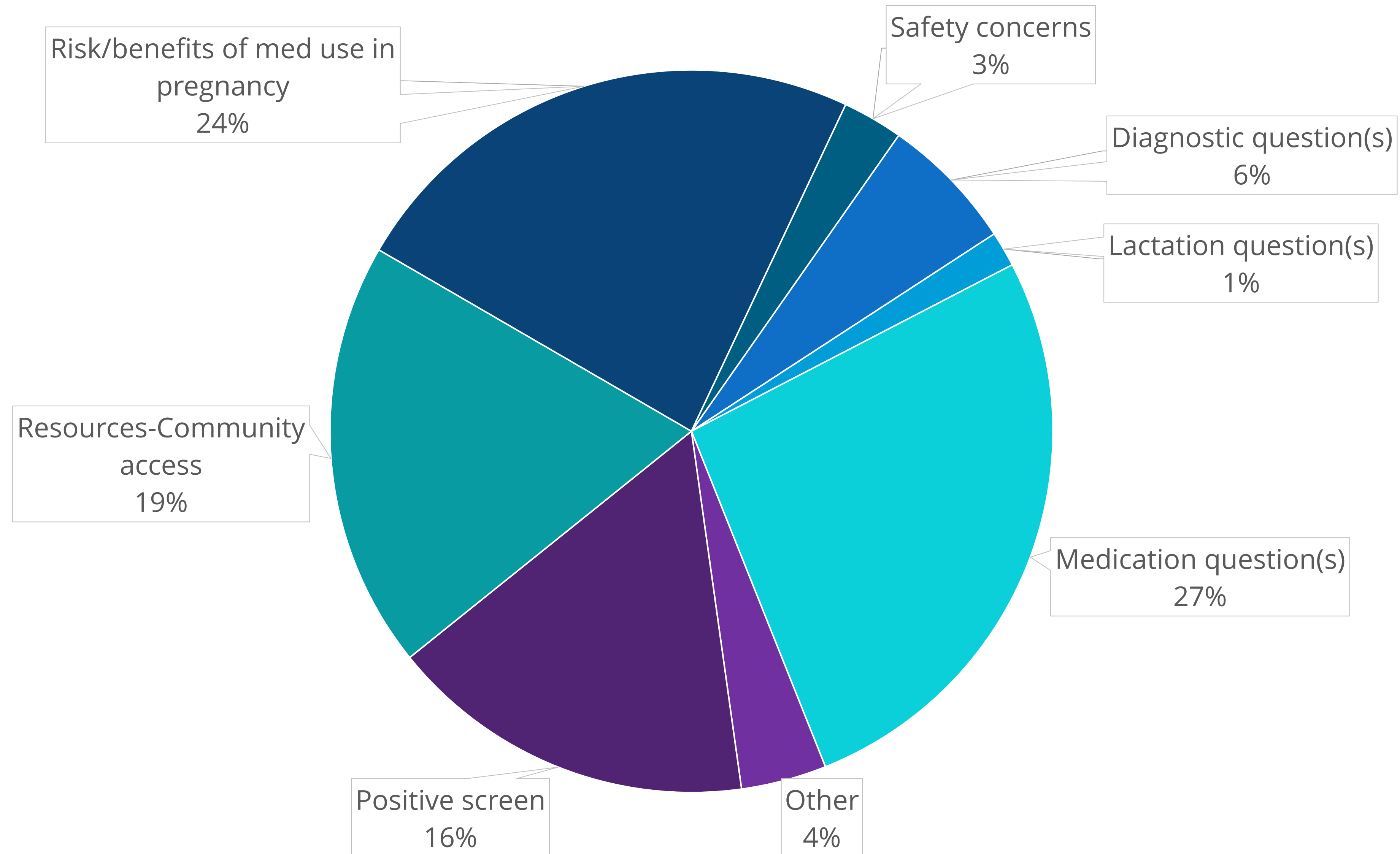
Florida BH IMPACT has had **390 encounters** since its launch in September 2019.

### Encounters with the FL BH IMPACT Program





# Reasons for Contacting the Program





**Florida BH IMPACT**

Improving Maternal and  
Pediatric Access, Care and  
Treatment for Behavioral Health

“What I really love is that [the BH IMPACT consulting psychiatrist] is able to come from the obstetric background, talk through the different medication options available and the safety profile of the medications, **so you feel very empowered**, or I should say educated when you go back to your patients to discuss the recommended care regime.”



- Certified Nurse Midwife &  
FL BH IMPACT enrolled provider

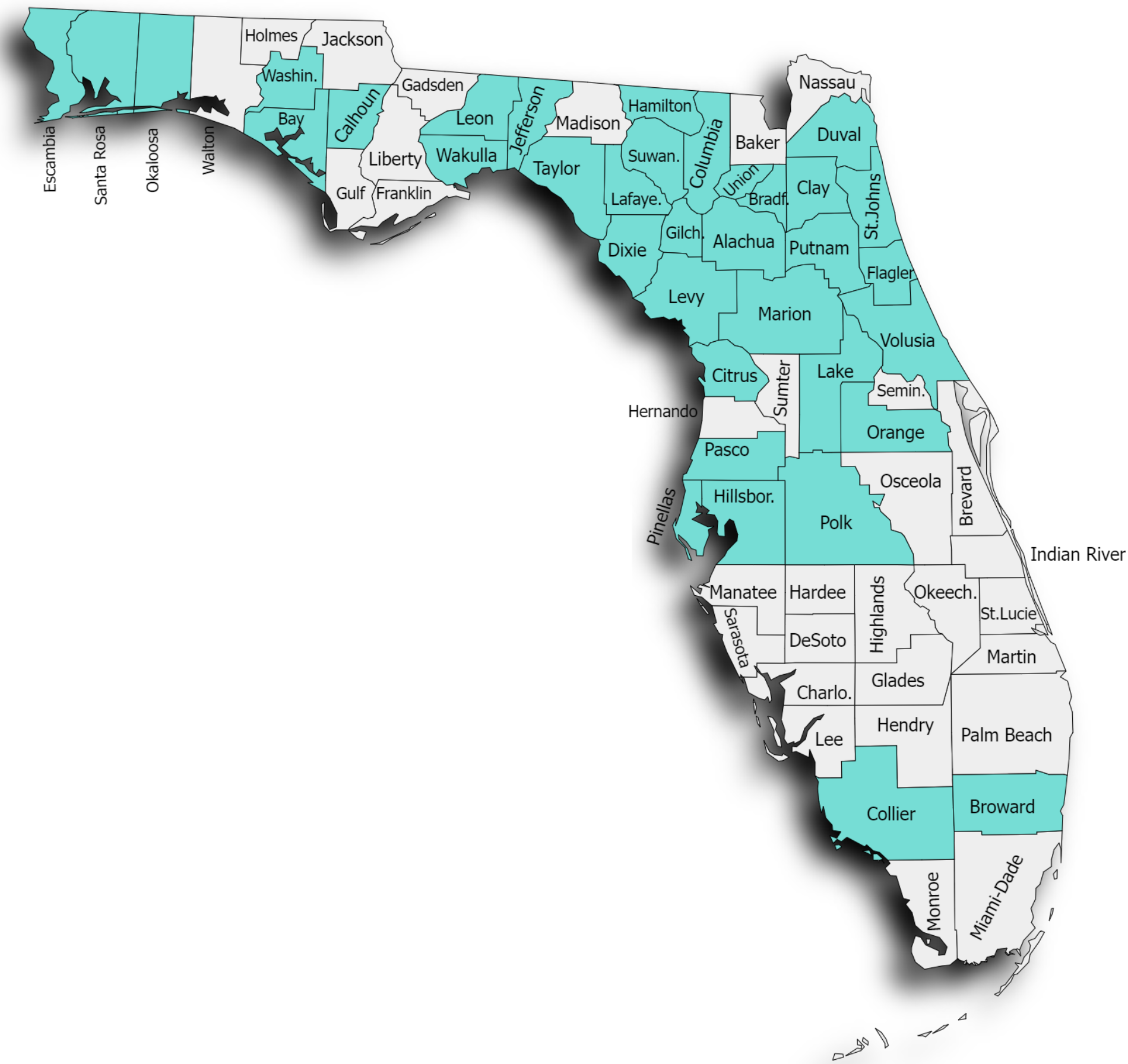
## Patients Served

# Patients Served

**Patients in 36 of Florida's 67 counties have been served** through their providers utilizing the Florida BH IMPACT program.

- Patients from 3 counties in South Georgia have also been served.

**32 Patients served were in Rural ZIP codes.**



Created with paintmaps.com

HRSA defines the following areas as rural:

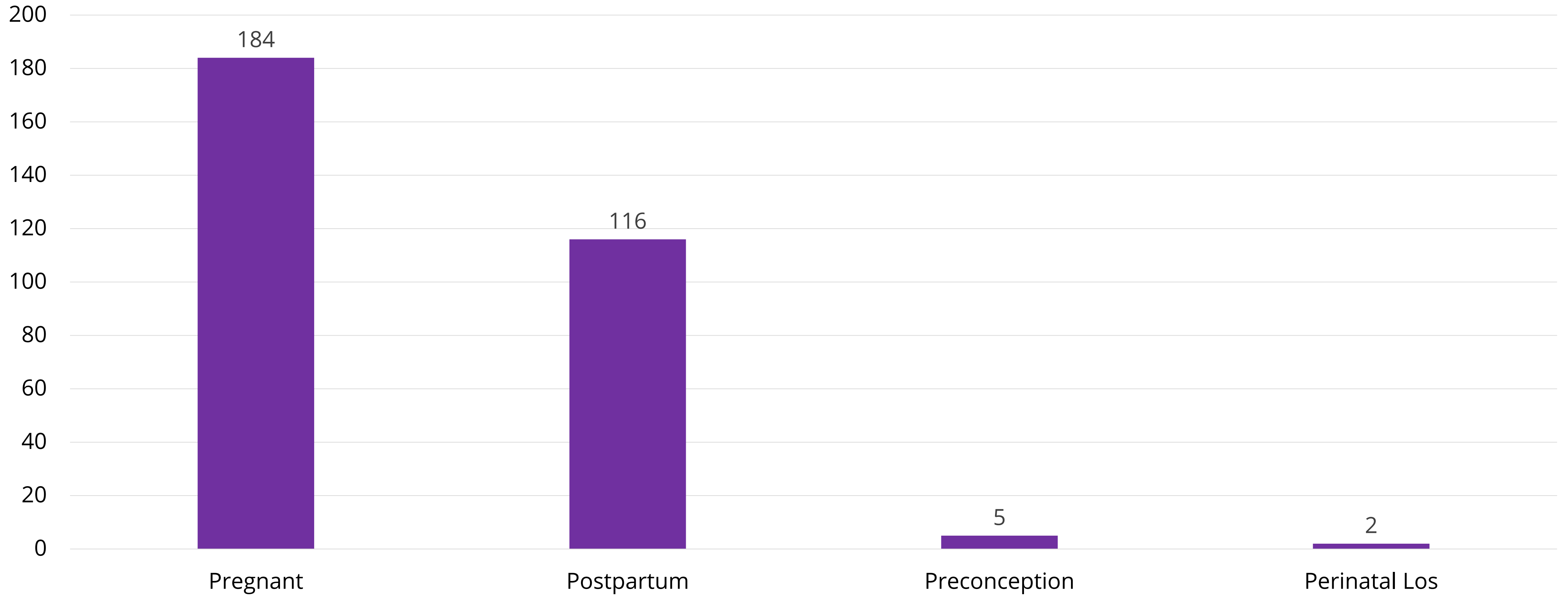
All non-metro counties; All metro census tracts with RUCA codes 4-10 and; Large area Metro census tracts of at least 400 sq. miles in area with population density of 35 or less per sq. mile with RUCA codes 2-3.

- Based on 2010 Census data, 19.7% of the population (60.8 million people) and 86% of the land area of the country are considered rural.



# Patients Served

## Patient Status



# Assessing the Impact

Kaniya Pierre Louis, a medical student at FSU, conducted an analysis of our program to investigate how our services have assisted women who are from **traditionally underserved** populations based on their geographic location and race/ethnicity.

**Assessing the Impact of the Florida BH IMPACT Program on Women Belonging to Underserved Populations**  
 Kaniya Pierre Louis, MS, Megan E. Deichen-Harrison, MSW, PhD, Melissa Nessome, MphI, Heather Flynn, PhD  
 FSU Center for Behavioral Health Integration

**Background & Research Aim**

**Results**

Demographic Variable	Finding (%)
Age (year), mean $\pm$ SD*	30.08 $\pm$ 5.56
Race-Ethnicity, n (%)	
White	63 (36.6)
Black or African American	23 (13.4)
Other Race/Ethnicity	12 (7.0)
Race Not Known by Provider	6 (3.5)
Rural vs Urban, n (%)	
Rural	23 (13.4)
Urban	67 (39.0)
Social Deprivation Index, mean $\pm$ SD*	57.61 $\pm$ 21.94

**Methods**

**Discussion**

## Key Findings:

- ~ 1 in 3 women who have been served by the program identified as a race/ethnicity other than non-Hispanic white.
- Approximately 25% of women served by the program with available ZIP code information lived in a rural community

### Results

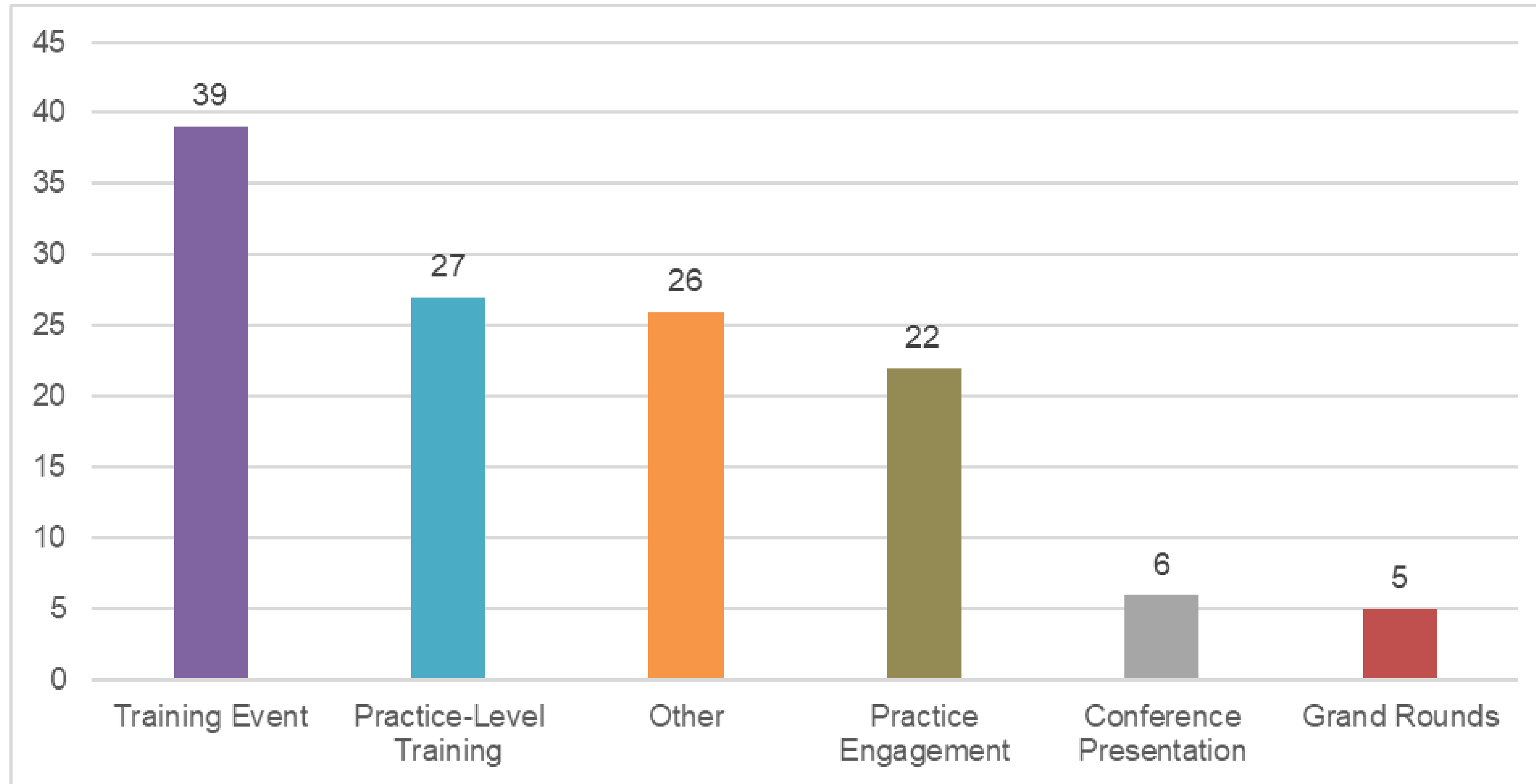
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Social Deprivation Index, mean $\pm$ SD*	57.61 $\pm$ 21.94

\*SD= Standard Deviation

- The mean SDI of our sample was 57.61 (SD=21.94), and the mean SDI of the state of Florida was 48.51 (SD=26.94).
- In our one sample test of means, we compared our sample's mean SDI to the mean SDI of Florida. Our results were  $t = 3.95$ , and our p-value was less than 0.001 ( $p < 0.05$ ). We reject the null hypothesis, which states there is no difference between the sample mean SDI and Florida's mean SDI.

# Practice Training and Engagement

# Practice Training and Engagement



Topics include:

- General Program Information
- PMADs, Depression, Anxiety, and Substance Use in Pregnancy
- Therapeutic Approaches (e.g., IPT)
- Health Equity
- Trauma Informed Care
- Other topics as requested by practices

Over 2,000  
People  
Trained

# Practice Training and Engagement

## Training Webinar Website

- Training Series Core Courses On-Demand
  - Treating Depression During and After Pregnancy
  - Managing Perinatal Anxiety Disorders
- Strategic Rollout to Enrolled Practices

The screenshot displays a website interface for Florida BH IMPACT. At the top, there are four navigation tabs: "All programs", "Behavioral Health Providers", "Pediatric Behavioral Health", and "Obstetrics & Behavioral Health". Below the tabs, there are five course cards arranged in two rows. Each card features a representative image, a title, and a "Join" button.

Course Title	Image Description
Treating Depression During and After Pregnancy	Silhouette of a pregnant woman
Managing Perinatal Anxiety Related Disorders	Doctor in white coat holding a smartphone
Perinatal Well-being	Man kissing a baby on the cheek
Understanding the Intersection of Perinatal and BH	Woman holding her belly outdoors
Anxiety in the Pediatric Population	Person sitting on a windowsill

Florida BH IMPACT

(833) 951-0296



# Resources

## PROVIDER PORTAL

[Portal Home Page](#)

[Pediatric Care Resources](#)

[Perinatal Care Resources](#)

[Recent Training](#)

[Newsletters](#)

[Member Profile](#)

[Password Reset](#)

Please take advantage of the Resources provided by FLBH IMPACT



### Newsletters

Archives of the FLBH IMPACT Monthly Newsletters



### Recent Training

Video Archive of the FLBH IMPACT Trainin

### Substance Use Disorder Resources

[ATLAS](#) is a free confidential, first-of-its-kind tool to connect those in need with high-quality and appropriate addiction treatment. This is an Addiction Treatment Locator, Assessment, and Standards Platform, [www.TreatmentATLAS.org](http://www.TreatmentATLAS.org), evaluates addiction treatment facilities' use of evidence-based best practices, includes an assessment to understand the appropriate level of care, and offers an easy-to-use dashboard to allow those in need and their loved ones to search for and compare facilities using criteria such as location, services offered, and insurance accepted so they can find the best treatment for their unique needs. ATLAS lists all of Florida addiction treatment facilities for any substance use disorder, including alcohol and opioid use disorder. This service is available in both English and Spanish.

- [ATLAS Promotional Photo available for Download](#)

[StrongWell](#) is a no-cost program for pregnant and postpartum women who are pursuing or currently in recovery from substance use.

- [PDF Website](#)

▶ [SBIRT Resources](#)

▶ [Opioid Use Disorder](#)

### Screening Tools

▶ [Edinburgh Postnatal Depression Scale \(EPDS\)](#)

▶ [Patient Health Questionnaire \(PHQ-9\)](#)

▶ [Generalized Anxiety Disorder Assessment \(GAD-7\)](#)

▶ [NIH NIDA Quick Screen for Substance Use](#)

▶ [5 P's for Substance Abuse](#)

▶ [Abuse Assessment Screen](#)

## Outreach Efforts



# Facebook and Instagram



Facebook Page Reach\*: 4,105 Users  
1,143 Page Visits

Instagram Page Reach\*: 6,303 Users  
1,119 Page Visits



Social media sites were created on February 2, 2020

\*The number of [Accounts Center accounts](#) that saw any content from your Page or about your Page, including posts, stories, ads, social information from Accounts Center accounts that interact with your Page and more.





**FREE Psychiatric Consultation and Support Services**  
**CALL: 1.833.951.0296**

**Call the Florida BH IMPACT Line When You Have Questions About:**

- Best-practices for management of pregnant and postpartum patients with behavioral health concerns (e.g., detection, assessment and treatment of depression and anxiety)
- Community resources
- Pregnancy loss, complications, or other difficult life events
- Risks of psychiatric medications and non-medication treatments

**What You Need Before Your Call:**

- All calls are answered by our resource/referral specialist. In addition to providing your phone number and email, if you'd like to request a consultation regarding a specific patient, the specialist will also need the following patient information:
- Name, Age/DOB, Zip code
  - Pregnancy status/gestation
  - Behavioral health diagnosis (if any), and previous mental/behavioral health screenings and scores
  - Confirmation of informed consent

**Talk with a Psychiatrist**

The information obtained by the resource/referral specialist during the initial call is entered and a message is then sent to our consulting psychiatrist notifying her of a consultation request. Our consulting psychiatrist will return your call as soon as possible.

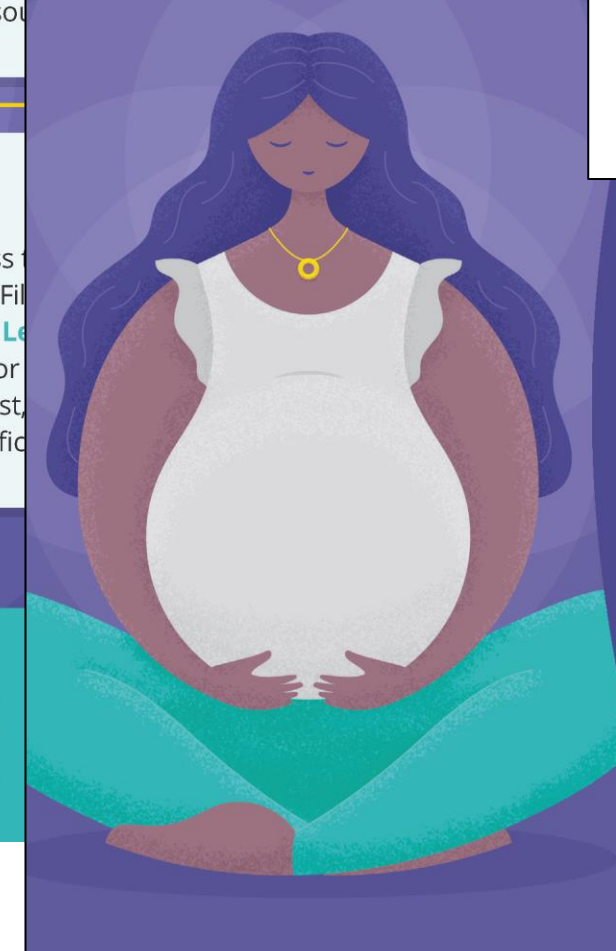


**Access Resources & Referrals**

The specialist will need patient information (as referenced above) if the request is for a specific patient. If the request is for general information, the specialist will provide you with a list of resources in your area.

**Enroll Your Practice**

If you haven't already enrolled your practice, you can continue to gain access to free, certified support services and resources by enrolling in one easy step. Fill out a one-page form provided by the specialist and return via email to our office. **Less than 5 minutes and you're done!** Once enrolled, you will receive our newsletter for providers, be invited to schedule a practice-level training with the psychiatrist, and subscribe to the FLBHimpact.org provider portal for more provider-specific information.



**About the Florida Perinatal Behavioral Health Screening & Treatment Program**

The Florida BH IMPACT Program is an initiative by the Florida Department of Health (DOH), Florida State University (FSU) College of Medicine, and the Florida Maternal Mental Health Collaborative (FLMMHC) to provide direct supports to promote maternal and child health by building the capacity of health care providers who are addressing these critical issues with their maternal patients.

**PSYCHIATRIC CONSULTATION LINE:**  
 1.833.951.0296  
**ONLINE:** FLBHimpact.org

**Supports for Your Practice Include:**

- Direct clinician access to telephone consultation with a psychiatrist during normal business hours
- Access for patients and clinicians to comprehensive referral resources and services in the region for behavioral health and substance use
- Use of valid screening tools for depression, anxiety and substance use
- Training of Obstetric providers in best practice maternal behavioral health screening, treatment and risk issues
- Tracking and reporting of information and measures related to the program's processes and outcomes



**Florida BH IMPACT**  
 Improving Maternal and Pediatric Access, Care and Treatment for Behavioral Health  
**1.833.951.0296 • FLBHimpact.org**

This publication was produced by the U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau under grant number U54MC002242. This publication lists non-federal resources in order to provide additional information to consumers. The views and content in these resources have not been formally approved by the U.S. Department of Health and Human Services (HHS) or the Health Resources and Services Administration (HRSA). Listing these resources is not an endorsement by HHS or HRSA.

**Enroll Your Practice**

By calling the hotline, your practice can receive **FREE** psychiatric consultations, community referrals, and on-demand responses to behavioral health questions. **Enrollment takes less than five minutes.**

Call **1.833.951.0296**.

Request an Enrollment Packet from the Resource & Referral Specialist.

Complete & return via email.

Schedule a **FREE** practice-level clinical behavioral health training from our consulting Florida BH IMPACT Psychiatrist, Dr. Kay Roussos-Ross.

Enjoy **FREE** access to the Psychiatric Consultation Line and community resources specific to your patients via **FLBHimpact.org**



Enrollment is simple, quick and provides you and your practice access to all of the program's free services. Enrollment takes less than five minutes via a one-page form. The goal of enrollment is to track the success of the program and to inform future improvements.

**Q: WHAT HAPPENS WHEN I CALL FL BH IMPACT?**  
 A Resource and Referral specialist with expertise in perinatal behavioral health will answer the provider's call, gather pertinent information and help determine the need for a telephone or face-to-face consultation with a FL BH IMPACT Psychiatrist. If the request requires consultation with a FL BH IMPACT Psychiatrist, the resource and referral specialist will send a contact request to the Psychiatrist. The Psychiatrist will return the call as soon as possible to speak with the provider who requested the consultation.

**Q: CAN I CALL**  
 No. FL BH IMPACT is not available 24/7. We recommend you call during business hours if there is an emergency.

\*Psychiatrist call limited based on availability.



**About the Florida Perinatal Behavioral Health Screening & Treatment Program**

The Florida BH IMPACT Program is an innovative initiative by the Florida Department of Health (DOH), the Florida State University (FSU) College of Medicine and the Florida Maternal Mental Health Collaborative (FLMMHC).

The program expands screening for: depression, anxiety, and substance use; and access to needed services for prenatal, pregnant, and postpartum women. The program aims to promote maternal and child health by building the capacity of health care providers to address these critical issues through professional development, expert consultation and support, and dissemination of best practices.

**OUR GOAL:** Improving the identification and treatment of pregnant and postpartum women who experience behavioral health and substance use disorders

**FREE psychiatric consultations, community referrals, and on-demand responses to behavioral health questions for prenatal care providers**

**PSYCHIATRIC CONSULTATION LINE: 1.833.951.0296**  
**ONLINE: FLBHimpact.org**

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**Free and Trusted Support for Obstetric Clinicians Caring for a Mother's Behavioral Health**

**Supporting prenatal care providers to enhance behavioral health care for patients:**

- Direct clinician access to telephone consultation with a psychiatrist during normal business hours
- Access for patients and clinicians to comprehensive referral resources and services in the region for behavioral health and substance use
- Use of brief, valid screening tools for depression, anxiety and substance use
- Training of Obstetric providers in best practice maternal behavioral health screening, treatment and risk issues
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**FLORIDA BH IMPACT**

**Free and Trusted Support for Obstetric Clinicians Caring for a Mother's Behavioral Health**

Get **FREE** psychiatric consultations, community referrals, and on-demand responses to behavioral health questions for your practice.

- 1 Call **1.833.951.0296**.
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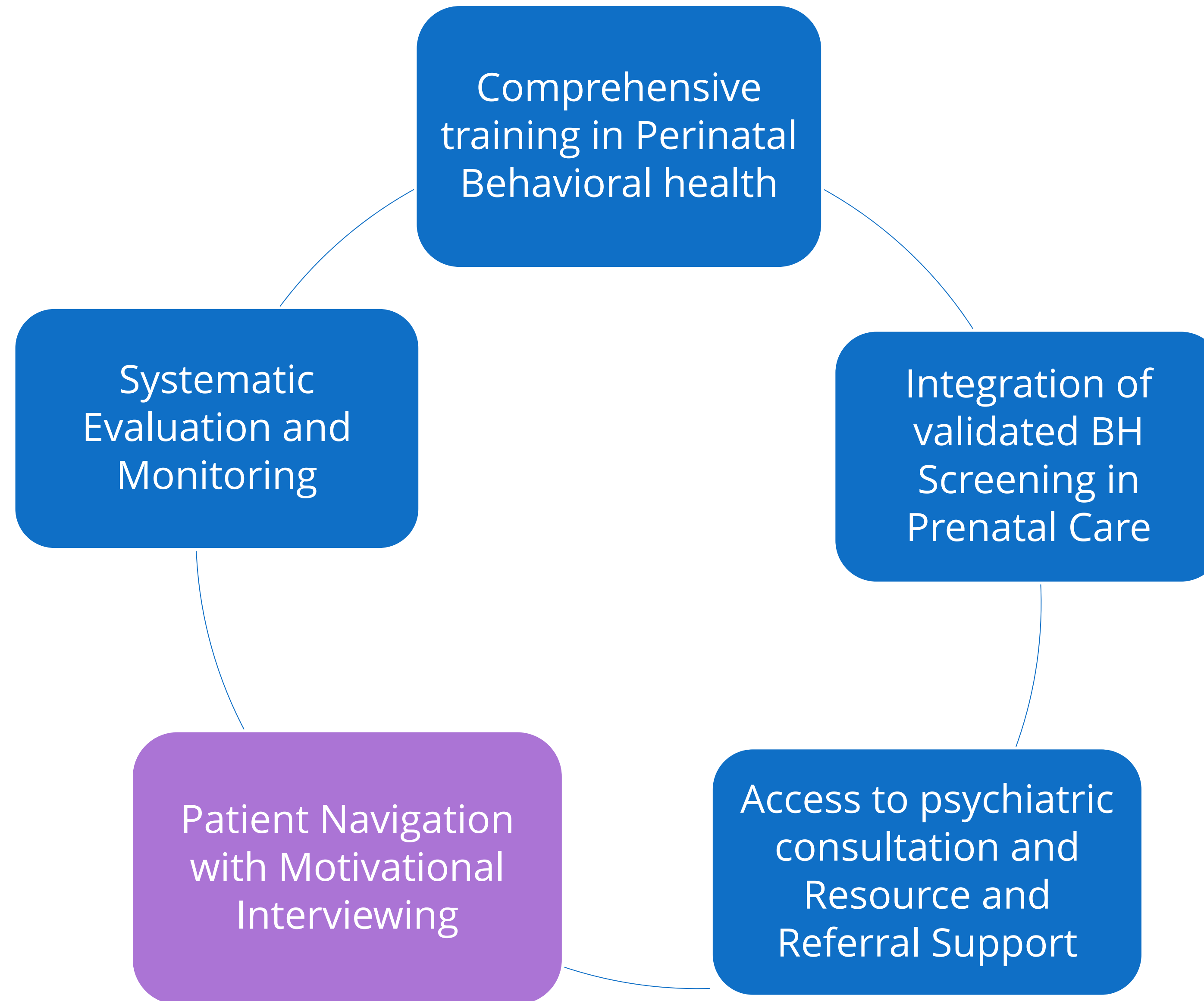


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# BH Impact Current Expansion



# Core and Common Components of Navigation

facilitating access to health-related programs and social services for patients

promoting and facilitating continuity of care

identifying and removing barriers to care and increasing engagement (MI)

effective and efficient use of the health care system



# Support Team

Adam Baptiste, MS, MD

Melissa Newsome, MPhil

Meghan Deichen Hansen, PhD

Monica Ragans

Russell Bradbury, MS

Jeva St. Fort, PhD

Tammy Shartzner, MS

Yuxia Wang





## **Florida BH IMPACT**

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Pediatric Access, Care and  
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