

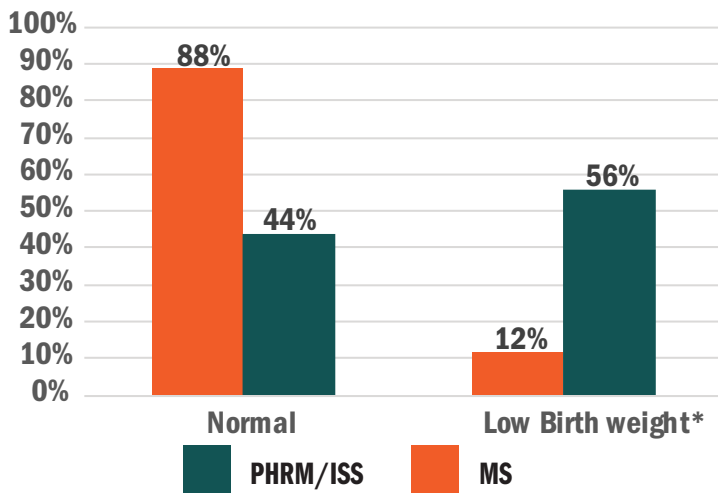
Raising the Bar for Infant Well-being:

An Overview of Mississippi's Perinatal High-Risk Management/Infant Services System Program



The Mississippi State Department of Health first piloted the Perinatal High Risk Management/Infant Services System program in 1988 in order to address the high rates of negative birth outcomes plaguing the state.^[1] While Mississippi has historically reported high rates of negative birth outcomes, including pre-term births, low birth weight, and infant mortality, compared to other states,^[2-3] the prevalence of these issues in the United States as a whole has been a widely recognized on-going public health concern.^[3-6] In response to the high rates of negative birth outcomes nationwide, state agencies and other organizations began implementing programming to address known causes of these outcomes in the 1980s and 1990s.^[7-10] Thus, Mississippi's Perinatal High Risk Management/Infant Services System (PHRM/ISS) program was established.

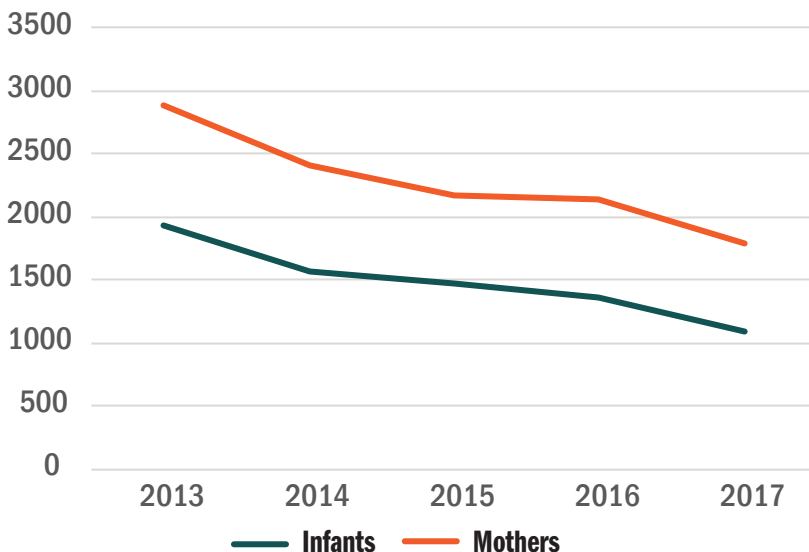
Birth Weight of PHRM/ISS Infant Participants Entering Program Compared to All Live Births in Mississippi: 2017



*Low birth weight (<2,500 grams); Rate for PHRM/ISS is for infants screened onto program in 2017

Source: Mississippi State Department of Health

Number of PHRM/ISS Beneficiaries: 2013-2017



Source: Mississippi State Department of Health

What is PHRM/ISS?¹¹

Mississippi's PHRM/ISS is a family-centered case management program created to reduce the infant morbidity and mortality rates in the state by addressing known contributing factors to such outcomes including: low birth weight, pre-term births, infant suffocations, and infant roll-over deaths.

PHRM/ISS aims

1. to ensure healthy pregnancy outcomes for high-risk mothers and infants
2. to promote a healthy first year of life for the infant through addressing individual maternal/infant and family needs.

PHRM/ISS provides integrated health services and multidisciplinary interventions such as health education and home visiting for eligible mothers and infants in order to promote maternal self-sufficiency. The voluntary program strives to provide timely access to medical, nutritional, and psychosocial services for participants.

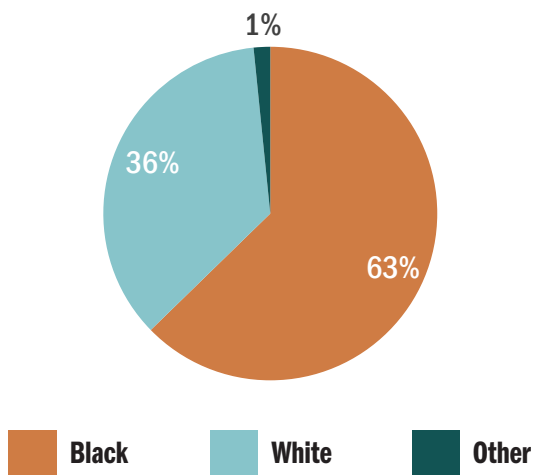
Pregnant women presenting eligible risk factors may be screened onto the maternal PHRM portion of the program, which provides services up to 60 days postpartum. Infants presenting with separate eligible risk factors may be screened onto the ISS portion of the program at any point following birth. Services for infants are provided until the infant's first birthday.

PHRM/ISS services include:¹¹

1. Five (5) individual and family needs assessments used to identify individual needs of participants and to develop a personalized plan of care
2. Implementation of a personalized plan of care including one-on-one health education and home visiting components
3. Monitoring, follow-up, and reassessments for risk (as needed)
4. Coordinated care services and communication across all providers serving the participant
5. Access to current resources for subsequent programming designed to assist high risk mothers and infants upon exiting the PHRM/ISS program

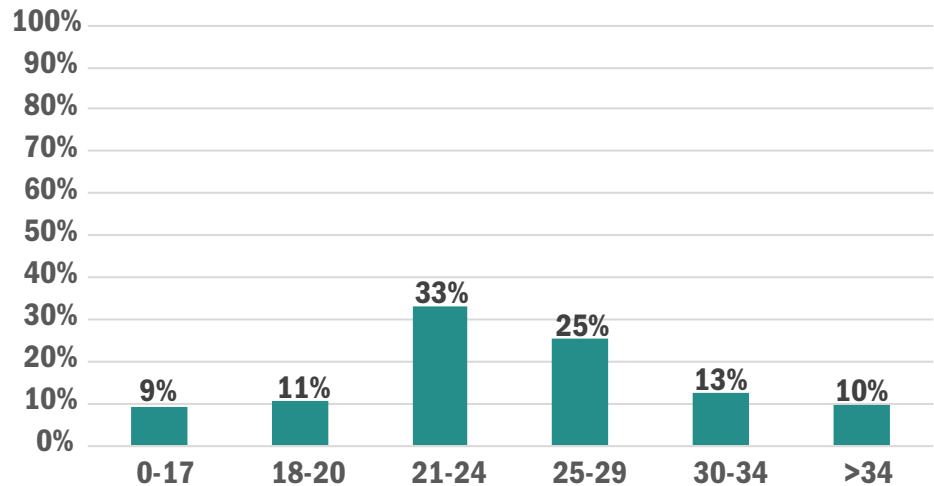
Characteristics of Pregnant Women Receiving PHRM Services

Pregnant Women Enrolled in PHRM/ISS by Race: 2017



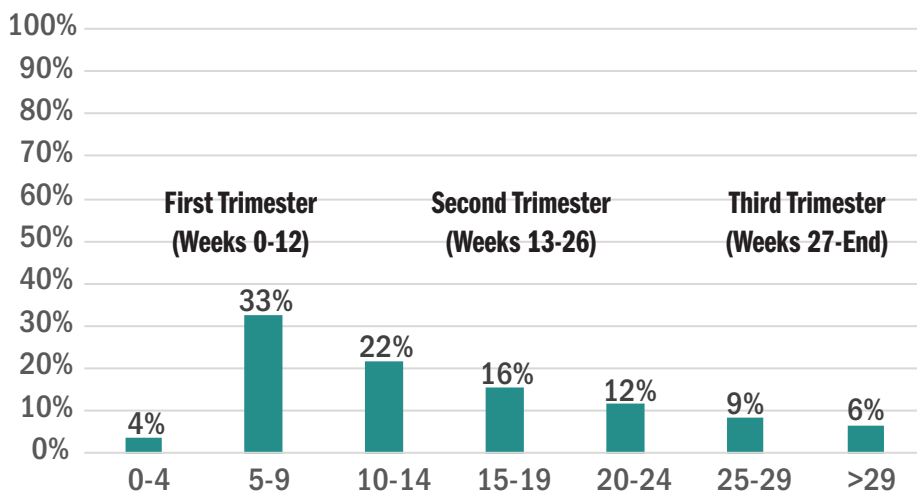
Source: Mississippi State Department of Health

Pregnant Women Enrolled in PHRM/ISS by Age: 2017



Source: Mississippi State Department of Health

Pregnant Women Enrolled in PHRM/ISS by Gestational Age (Weeks): 2017

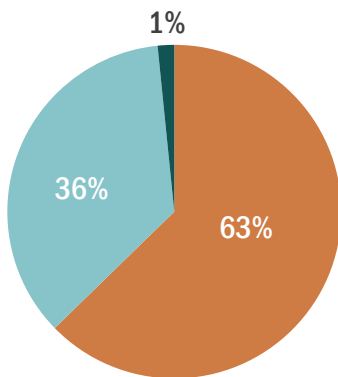


Source: Mississippi State Department of Health

In 2017, a total of 1,796 pregnant women received PHRM/ISS services in Mississippi. Of these women, the majority (63%) were black. About half the women served by the program were under age 25 (53%). Most of the women served by the program enrolled within their first trimester of pregnancy.

Characteristics of Infants Receiving PHRM/ISS Services

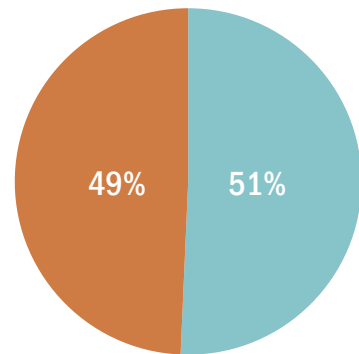
Infants Enrolled in PHRM/ISS by Race: 2017



Black White Other

Source: Mississippi State Department of Health

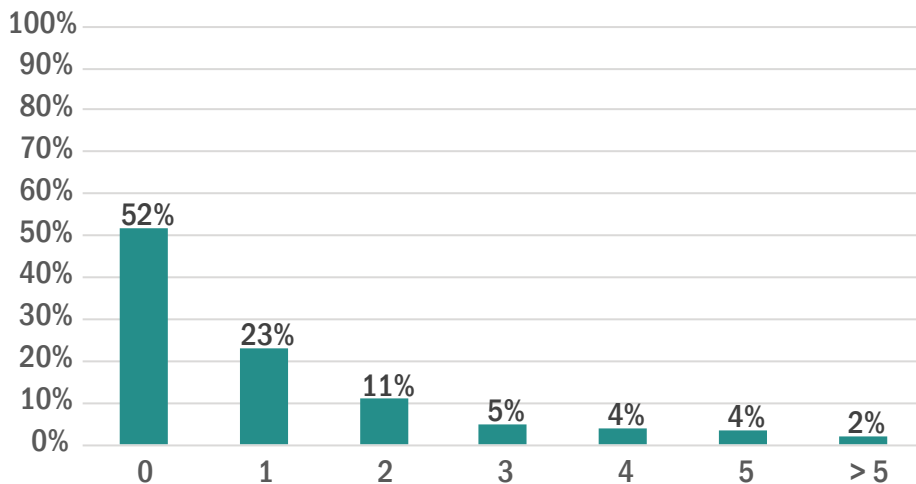
Infants Enrolled in PHRM/ISS by Gender: 2017



Male Female

Source: Mississippi State Department of Health

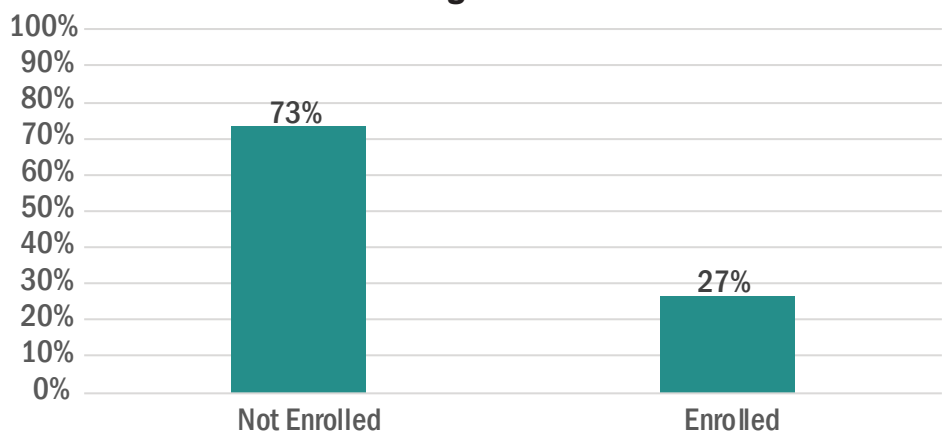
Infants Enrolled in PHRM/ISS by Age (Months): 2017



Source: Mississippi State Department of Health

This chart shows the age at which infants were enrolled in the PHRM/ISS program. Approximately half of infants (52%) were enrolled within their first month of birth. Most of the remaining infants were enrolled by their first or second month.

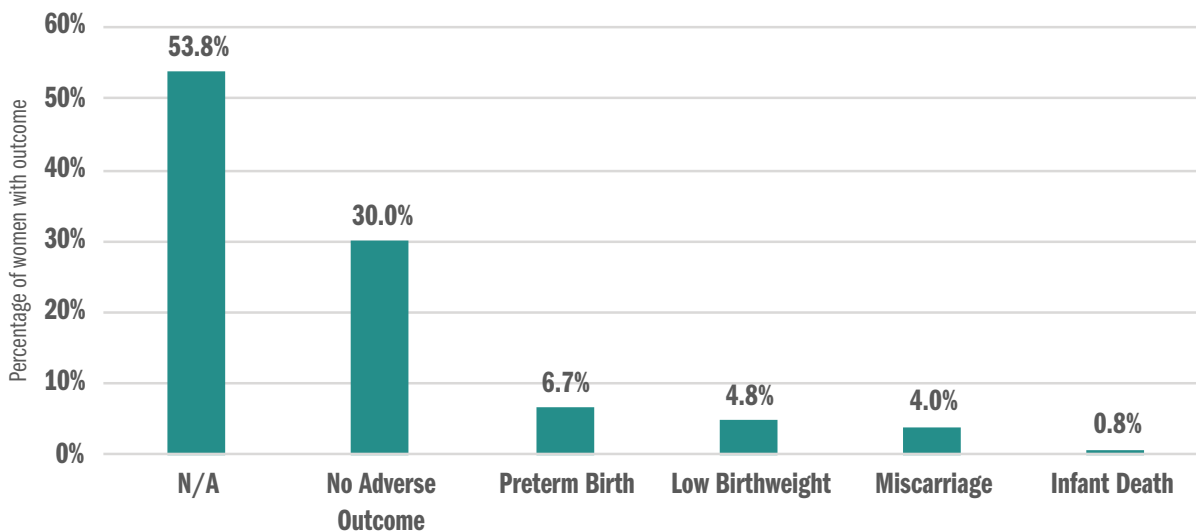
Percentage of Infants with a Mother Enrolled in Program Prior to Birth: 2017



Source: Mississippi State Department of Health

Of the infants screened onto the ISS portion of the program in 2017, over a quarter (27%) had mothers who had participated in the maternal PHRM portion of the program prior to the infant's birth.

Adverse Birth Outcomes Among Women Enrolled in PHRM/ISS: 2017



Source: Mississippi State Department of Health

The PHRM/ISS program monitors for adverse outcomes among program enrollees. This chart shows the percentage of women with an adverse outcome during their participation in the program. Overall, 30% of women had no adverse outcome and 16% had one or more adverse outcomes. The most frequent adverse outcome reported was preterm births (7% of women) followed by low birth weight (5%). For approximately half of women who were enrolled in the program (54%), no outcome could be determined due to participant exiting the program prior to giving birth.

References

- ¹ Interview with Mississippi State Department of Health (MSDH) representatives.
- ² Data tables reporting state-level statistics on pre-term birth, low birth weight and infant mortality. Retrieved from the National Center for Health Statistics: <https://www.cdc.gov/nchs/contents2017.htm>. Tables 006 and 012; linked data available: <https://www.cdc.gov/nchs/nvss.births.htm>.
- ³ Kleinman, J.C. (1986). State Trends in Infant Mortality, 1968-83. *American Journal of Public Health*, 76(6), 681-687.
- ⁴ Bernet, P.M., Gummus, G., & Vishwasrao, S. (2018). Effectiveness of public health spending on infant mortality in Florida, 2001-2014. *Social Science & Medicine*, 211, 31-8.
- ⁵ MacDorman M.F. & Rosenberg, H.M. (1993). Trends in infant mortality by cause of death and other characteristics, 1960-88. *National Center for Health Statistics. Vital Health Stat* 20(20).
- ⁶ Cunningham, S.D., et. al. (2017). Expect with Me: Development and evaluation design for an innovative model of group prenatal care to improve perinatal outcomes. *BMC Pregnancy and Childbirth* 17:147. DOI 10.1186/s12884-017-1327-3.
- ⁷ Chao, S. M., et. al. (2010). Integrated Approaches to Improve Birth Outcomes: Perinatal Periods of Risk, Infant Mortality Review, and the Los Angeles Mommy and Baby Project. *Maternal and Child Health Journal*, 14:827-837. DOI: 10.1007/s10995-010-0627-2.
- ⁸ Black Infant Health (BIH) Program. Los Angeles County Department of Public Health, Maternal, Child, and Adolescent Health Programs. <http://www.lapublichealth.org/mch/BIH/BIH.htm>.
- ⁹ Fetal Infant Mortality Review. Los Angeles County Department of Public Health, Maternal, Child, and Adolescent Health Programs. <http://publichealth.lacounty.gov/mch/fimr/fimr2.htm>.
- ¹⁰ Peck, M. G., Sappenfield, W. M., Skala, J. (2010) Perinatal periods of risk: A community approach for using data to improve women and infants' health. *Maternal and Child Health Journal* 14:864-874. DOI: 10.1007/s10995-010-0626-3.
- ¹¹ MSDH PHRM/ISS Policy Manual, 2018.