



Healthy Moms and Babies



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Overview

Maternal health refers to the health of women during pregnancy, childbirth, and the postnatal period (1). It is influential in determining the overall health outcomes of both mother and baby, making a woman's preconception health and ability to access maternal healthcare extremely important. Prenatal care is critical as it allows expecting mothers to be screened and monitored for potential complications that could occur during and after pregnancy. Access to prenatal care reduces the risk of many pregnancy complications that can be dangerous and even fatal for both the mother and baby, especially if left undiagnosed.

While genetics can play a role in maternal and infant health outcomes, the preconception health of a mother is critical. Research strongly supports that where people live, learn, work, and play (in addition to environmental and social factors and availability of resources to meet daily needs) influence maternal and infant health behaviors and health status (2).

A **maternity care**

desert, as defined by the March of Dimes, is "a county in which maternity care services are limited or absent

because of either a lack of services or barriers to a woman's ability to access those services" (4). Women living in these counties have limited access to appropriate preventive, prenatal, and postpartum care.

Nationally, more than 5 million women live in maternity care deserts that have no hospital offering obstetric care and no obstetric providers (4).

Almost 150,000 babies are born annually to women living in maternity care deserts in the United States (4).

Among women living in maternity care deserts, 4 of 5 live in a rural area (4).

Pregnant women living in rural communities face unprecedented barriers to accessing adequate maternity care, often leading to disparate birth outcomes (3). Rural women often face lengthy journeys to reach a hospital that offers obstetric care. The scarcity of obstetricians practicing in rural areas increases the number of births without obstetrician care and influences the number of early elective deliveries through the induction of labor and cesarean section procedures. The complications associated with these procedures present increased risks of maternal and infant mortality

(4). The likelihood of facing these challenges is even greater for women of color in rural areas as they are disproportionately affected by a lack of access to maternal care and have a higher incidence of maternal mortality (5).

Prenatal Care Rated Adequate or Better



Rural
355.9 per 1,000



non-Rural
411.3 per 1,000

Virginia Department of Health PRAMS 2018

In Virginia, rural communities have a higher rate of infants born with low birth weight.

In rural areas, the rate of low birth weight is approximately 94 per 1,000 live births, compared to 82 per 1,000 in non-rural areas. However, there is much variation regionally. In Eastern Virginia, there are 123 babies born annually with low birth weight per 1,000 live births. In Northern Virginia, that number falls to 72. Additionally, low birth weight is often seen in babies with Neonatal Abstinence Syndrome (NAS), which occurs more frequently in rural areas.

Time between births is a concern for rural mothers and babies.

Children in rural areas are born with a birth interval of less than two years at over twice the rate of non-rural area; 190 per 1,000 live births in rural areas compared to just 89 per 1,000 live births in non-rural areas. Short birth rate intervals increase the risk of the mother not recovering fully from previous births, creating a sub-optimal environment for the next baby. These conditions can cause complications such as low birth weight and higher mortality rates in future births.



Mount Rogers Health District: Baby Care Program

Need addressed: A 2013 study about the fourth trimester of the postpartum period reports that “rural women are...a dangerously underserved population due to the inadequate number of care providers who serve rural regions” (10). Additional health care options would benefit rural mothers and babies.

Approach: The Mount Rogers Health District created the Baby Care Program to coordinate Registered Nurses who are willing to educate mothers about the growth and development of their babies and to connect them with appropriate medical care. The Baby Care Program helps women learn how to have a healthy pregnancy, raise a healthy baby, and locate the appropriate health services for both herself and her baby. A mother enrolled in the program will learn how to monitor her baby’s growth and development, keep her baby safe, maintain a healthy diet, and breastfeed. Beyond infant years, the Baby Care Program gives mothers advice on how to be a good parent, the importance of regular doctor visits, healthy lifestyle choices, and family immunizations (11).

Outcome(s): The Baby Care Program provides case management services, pregnancy and parenting information, emotional support, referrals to community services, home visits, and phone support to new moms and babies up to the age of two. The program has helped many growing families and even offers a plan of safe care for moms and families with substance abuse disorder (11).

Three Rivers Health District: Healthy Start Loving Steps

Need addressed: Maternal mortality rates have often been utilized as a broad indicator of a society’s overall well-being, with lower mortality indicating better living conditions and increased access to high quality health care. Unfortunately, a 2019 study that examined the maternal outcomes of more than 33 million births between 2001 and 2015 found that in the United States, rural women were 9% more likely to suffer from severe morbidity and mortality “as compared to urban women (12).

Approach: The Three Rivers Health District encompasses the rural area of Virginia located between the Potomac, Rappahannock, and York Rivers and to the west of the Chesapeake Bay. Three Rivers Health District has three impressive home visiting programs that aid women in making sure their pregnancies are healthy and that they have the skills needed to effectively raise emotionally, physically, and socially healthy children (13).

The health district offers Community Health Workers’ Home Visiting Case Management Services, a program called Three Rivers Resource Mothers, and the Healthy Start/Loving Steps program. The Three



Rivers Resource Mothers Program works with teen moms to promote prenatal care, breastfeeding education, and developmental screenings of infants. It also makes sure young mothers immunize their babies. The Healthy Start/Loving Steps program provides health education services exclusively to women in Westmoreland County until their child reaches two years of age. All three programs utilize community health workers to deliver services, education, and assistance to mothers (13).

Outcome(s): The Three Rivers Home Visiting Program has provided assistance to countless mothers and babies in rural Eastern Virginia. The Resource Mothers Program has especially improved health outcomes of mothers, as it assists teens with taking proper care of their babies, family planning, and developing a stable home (14).

University of Arkansas for Medical Sciences (UAMS) High Risk Pregnancy Program

Need addressed: In the early 2000’s, Arkansas had high rates of low birthweight babies compared to the rest of the country, and women in rural areas had difficulty accessing specialty obstetric care (15).

Approach: The University of Arkansas for Medical Sciences (UAMS) created the Institute for Digital Health and Innovation (IDHI) High-Risk Pregnancy Program to increase access to care for pregnant women in an effort to improve outcomes for high-risk pregnancies. UAMS describes its program as an innovative consultative service for a wide range of obstetric providers in the state (9). Its goal is to ensure that pregnant women have access to high-risk obstetric services regardless of their residence in Arkansas. This program is the only one of its kind in the United States and offers access to maternal-fetal medicine physicians via telemedicine (15).

Outcome(s): The program has increased access to care and reduced infant mortality for rural Arkansas women through various programs and has been recognized as a model. Over the past fifteen years, the High Risk Pregnancy Program has resulted in a downward trend in neonatal death, post-neonatal death, and postpartum



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complications. Every participant in the High-Risk Pregnancy Program who completed a survey reported that they would either use the service again or thought the service was beneficial for the state of Arkansas (15).

Mothers and Infants Sober Together (Eastern Tennessee)

Need addressed: Tennessee and other states in the Central Appalachian region face higher rates of substance abuse disorder compared to the rest of the country. There is an opportunity to create programs for pregnant women using illicit substances and infants born into drug-positive families.

Approach: The Mothers and Infants Sober Together (MIST) program assists mothers who use substances to get treatment and provide a safe, drug-free home for themselves and their newborns. MIST provides mothers with integrated physical and mental health care and works with the mother to create a stable environment free of drugs. The average age of a MIST client is 24, with a range of 13 to 41 years (16).

Outcome(s): MIST has helped mothers find treatment and education and has helped children grow up in safe and healthy homes. The MIST Program reports that it has received 942 agency referrals. Because of MIST and with assistance of their physicians, many women have successfully detoxed before giving birth. Drug-free, healthy babies have been born to women who were previously addicted to drugs during pregnancy (16).

Opportunities for Growth

1. Establish a Health Professional Shortage Area (HPSA) designation specific to maternity care

- Designations would allow for the National Health Service Corps, State Primary Care Office and State Office of Rural Health to offer student loan repayments to incentivize maternal health providers to practice in shortage areas.

2. Integrate more certified nurse-midwives in prenatal care and birth plans

- Expanding access to midwifery is critical for improving maternal and neonatal health outcomes for rural women, especially those lacking access to traditional prenatal care.
- Medicaid pays for slightly under half of all births in the United States, but in rural areas, the proportion is often higher. Since Medicaid pays approximately half as much as private insurance for childbirth, the financial aspect of keeping a labor and delivery unit open is more difficult in rural areas. Expanding the use of midwives and birthing centers could be a cost-effective alternative because they are generally less expensive than physicians and hospital obstetric units.

3. Provide targeted training of providers practicing in maternity care deserts

- Traveling mobile units to offer training of general practitioners on common obstetric complications.

4. Inform the strategic planning of Maternal Mortality Review Committees

- Compare maternal and infant birthing outcomes prior to and after Medicaid expansion.

5. Utilize Telemedicine to provide long-distance maternal-fetal medicine consultations in rural hospitals and clinics

6. Share resources across systems and settings by regionalizing perinatal care

- By coordinating a system of care within a geographic area, pregnant women would receive risk-appropriate care in a facility equipped with the proper resources and health care providers (17). A study examining geographic gaps in access in the availability of obstetric and neonatal care found that while the majority of women of reproductive age in the U.S. do have access to critical care, there are significant differences (17). Nearly all obstetric and

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newborn intensive care units were concentrated in urban areas with clusters of hospitals operating close to each other, which meant that the majority of the population did not have access to perinatal critical care units. Access is defined as living within 50 miles of care. However, large geographic areas were not covered by either of the perinatal facility zones, indicating a significant gap in access for women in rural areas. In addition, the fastest access to both obstetric and neonatal critical care for almost 10% of women was in a neighboring state, underscoring the need for coordination between states (17).

7. Train and implement more community health workers (CHWs)

- The addition of CHWs is critical to improving healthcare in rural settings, especially perinatal care.
- A program that brings perinatal care and parenting education to parents in rural areas by CHWs is needed.
- Holy Cross Medical Center in New Mexico's First Steps program provides home visits by CHWs to parents and children from the perinatal period to age three. This program assists parents with raising a child by helping reduce barriers. The CHW works with families to find resources and create plans for success.

8. Expand awareness of and access to governmental assistance

- In 2012, Virginia spent over \$16 million on Medicaid expenditures for pre- and postnatal care of mothers in rural areas. Over 5,000 births were paid through Medicaid.
- In Virginia's Child Care Subsidy Program, a portion of the cost is made directly to high quality child care providers. This program is available to many women including those who are employed, participating in an education or training program, and/or receiving child protective services.
- In 2019, there were 109,469 participants in the Women, Infants, and Children Program (WIC) in Virginia. However, in 2014, almost 50% of eligible pregnant women did not participate in the WIC program. Additionally, participation in the program has been decreasing as children become older even if they are still eligible. The overall coverage rate in Virginia is 47.7%.
- While these programs are vital to many rural women and children, they do not have full participation. Support groups and classes can be created to help women and their children sign-up for these programs. Community members such as social workers should better explain these programs, the eligibility criteria, and how to receive coverage.

