



South Carolina Institute of  
Medicine & Public Health



APRIL 2025

# Improving Maternal and Infant Health: Increasing Access to Care in Rural South Carolina



## About the South Carolina Institute of Medicine and Public Health

The South Carolina Institute of Medicine and Public Health (IMPH) is an independent, nonprofit organization working to collectively inform policy to improve health and health care in South Carolina. IMPH provides nonpartisan, evidence-based information to guide policymakers in making impactful health policy decisions. For more information on IMPH publications, initiatives, and events, please visit [www.imph.org](http://www.imph.org).

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Becoming ABBaVille

# Letter from the Taskforce Chair



*It is my privilege to bring you a warm South Carolina hello* on behalf of the entire **Improving Maternal and Infant Health: Increasing Access to Care in Rural South Carolina Taskforce**. I am Dr. Lisa Waddell, a preventive medicine and public health physician with over 32 years of public health experience at the local, state and national levels, with 20 of them right here in South Carolina. It has been an honor to serve as the Chair of this exceptional group of over 40 committed individuals representing multiple organizations, components and perspectives of the community, public health and health systems, all focused on improving maternal and infant health outcomes in South Carolina.

It is no secret that there is a maternal and infant health crisis in our country, and the outcomes in our state are far less than optimal. Too many women die or suffer severe health consequences as a result of childbirth, and too many infants do not survive to see their first birthday. And for infants and women of color, the outcomes are even worse. We all know that we can and we must do better to ensure that every infant has an opportunity to live and thrive and every mother survives and lives a healthy and quality life before, during, and after delivery.

There are many challenges that exist in rural parts of our state that if addressed, the path forward will be a brighter one for our children and families. This report identifies recommendations that address challenges related to access to providers, workforce needs, service delivery models, payment challenges, and some key social drivers of health.

The recommendations outlined in this report, when implemented, will put us on that brighter path. Collective efforts of policymakers, community organizations, providers, hospital and public health systems, public and private payors, philanthropy, and more will all be necessary in order to have the greatest impact.

Thank you to each and every taskforce member, the staff of the South Carolina Institute of Medicine and Public Health, and all others who contributed to this report and these recommendations in any way. Your input and your voices matter.

Finally, I know that when we truly work together, great things do happen. So, I am asking that we all work together to ensure the implementation of these recommendations. Together we can ensure a healthier and brighter today and tomorrow for mothers and infants in South Carolina.

Best Regards,

A handwritten signature in black ink that reads "Lisa F. Waddell, MD". The signature is fluid and cursive.

**Lisa F. Waddell, MD, MPH, FACPM**

Taskforce Chair  
Preventive Medicine/Public Health Physician  
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# Introduction

In 2022, 2023, and 2024 South Carolina earned a grade of F from the March of Dimes for its preterm birth rate.<sup>1</sup> South Carolina also fares poorly on maternal health measures, ranking among the five states with the highest maternal vulnerability rates in the country and ranking 8th in maternal mortality, with statistics worsening in recent years.<sup>2</sup> According to the 2025 South Carolina Maternal Morbidity and Mortality Review Committee Legislative Brief, in 2021 “the SC Pregnancy-Related Mortality Rate (PRMR) was 47.2 PR [Pregnancy-Related] deaths per 100,000 live births, a 46.2% increase from 32.3 in 2020.”<sup>3</sup> Almost 90% (88.9%) of those deaths were found to be preventable.<sup>4</sup>

Poor maternal and infant health outcomes in South Carolina are costly for the state. For example, the average hospital charge for deliveries involving severe maternal morbidity (SMM) is \$109,240 compared to \$35,309 for non-SMM deliveries.<sup>5, a, b</sup>

Economists project estimated costs for South Carolina in 2019 as follows:

- Direct Medical Costs: ~ **\$16 million**
- Decreased Workforce Productivity: ~ **\$106 million**
- Increased Reliance on Public Assistance: ~ **\$3.8 million**
- Increased Medicaid costs, reliance on emergency services, increased medical needs of children: ~ **\$357 million**<sup>6, c</sup>

The economic burden of adverse maternal health outcomes is also evident in workforce participation and productivity. Maternal health complications can lead to prolonged absences from work or complete withdrawal from the labor force.<sup>7</sup> The Joint Economic Committee of the United States Senate estimated that productivity losses due to maternal morbidity amount to \$6.6 billion over five years in the US.<sup>8, d</sup>

One in five women received inadequate prenatal care in South Carolina in 2023; however, “national data indicates that every dollar invested in prenatal care saves \$3 to \$6 by preventing complications, underscoring the importance of early intervention.”<sup>9, 10</sup>

**FIGURE 1**

## Maternal and Child Costs Due to Maternal Morbidity for US Births, 2019



Source: The Commonwealth Fund. (2021). The High Costs of Maternal Morbidity Show Why We Need Greater Investment in Maternal Health.

<sup>a</sup> Severe maternal morbidity is one or more unexpected outcomes of labor and delivery that result in significant short- or long-term consequences to a woman's health, according to the US Centers for Disease Control and Prevention.

<sup>b</sup> These calculations use medical charges data, a commonly utilized way to calculate health costs in the literature.

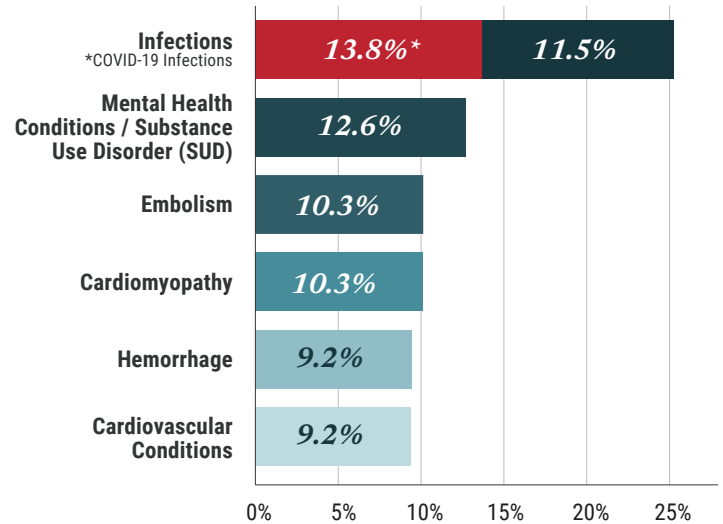
<sup>c</sup> Economists multiplied the national costs by 1.6%, which is the share of South Carolina births as a share of births nationally in 2021.

<sup>d</sup> According to the National Institutes of Health, “any short - or long-term health problems that result from being pregnant and giving birth.”

**FIGURE 2**

## Leading Causes of Pregnancy-Related Deaths in South Carolina

*Percent of pregnancy-related deaths, 2018-2021*



Source: South Carolina Maternal Morbidity and Mortality Review Committee. (2025). SC Maternal Morbidity and Mortality Review Committee 2025 Legislative Brief.

Women in rural areas of the state often suffer poor health outcomes disproportionately to their urban counterparts. In 2021, women in rural South Carolina died at a rate of 55.4 compared to 34.2 in urban areas—a 62% higher mortality rate for rural mothers, according to the South Carolina Maternal Morbidity and Mortality Review Committee’s 2025 Legislative Brief.<sup>11, e</sup>

Leading causes of pregnancy-related deaths included infections, mental health conditions/substance use disorders (SUD), embolism, cardiomyopathy, hemorrhage, and cardiovascular conditions.<sup>12</sup>

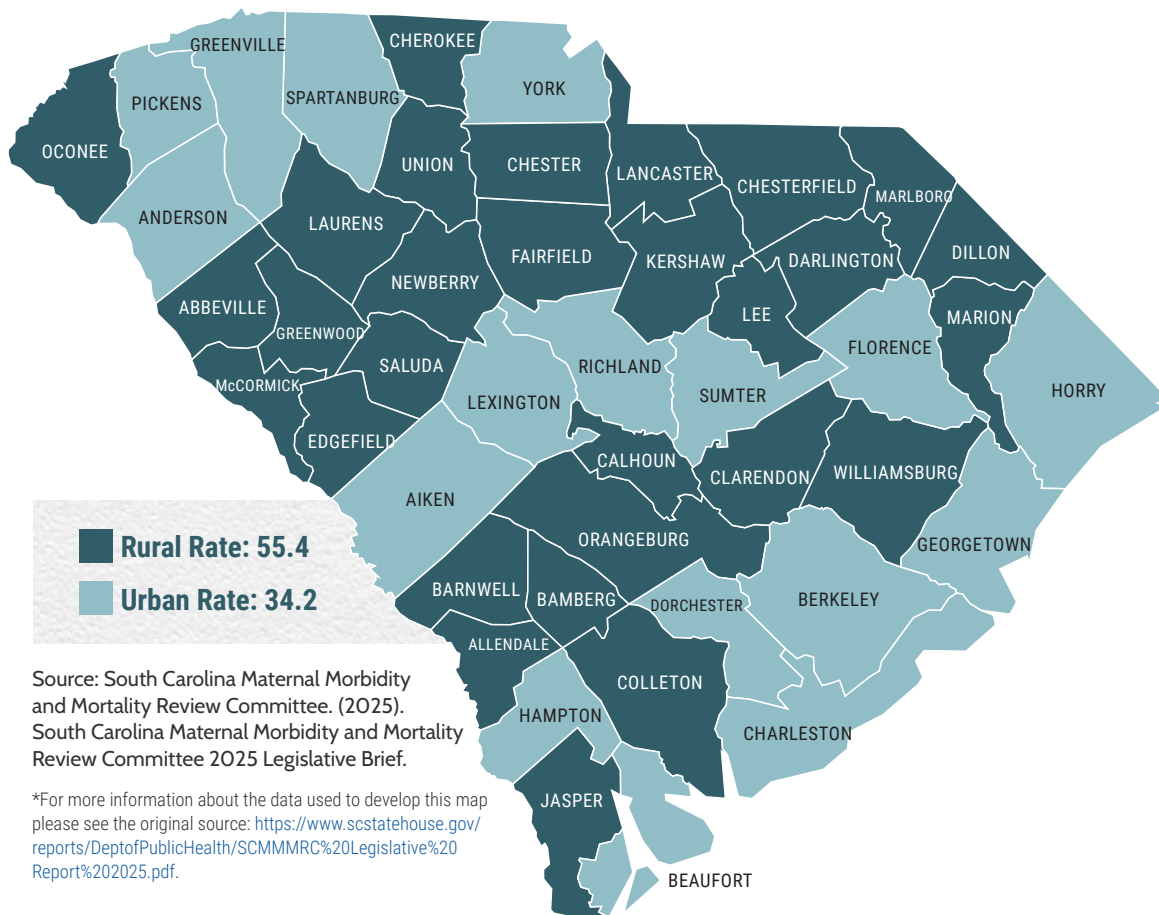
The South Carolina Maternal Morbidity and Mortality Review Committee 2025 Legislative brief noted, “COVID-19 accounted for 13.8% of all pregnancy-related deaths during 2018-2021. In 2021, there were fewer pregnancy-related (PR) deaths due to mental health conditions/SUDs, embolism, and hemorrhage than in 2020. PR deaths due to mental health conditions/SUDs decreased by 53.4% from 2020 to 2021.”<sup>13</sup>

\* These rates are per 100,000 live births.

**MAP 1**

## Pregnancy-Related Mortality Rate by Urban and Rural Designation\*

*Rate per 100,000 live births*



Nationally, by 2030, the “anticipated supply of OB/GYNs is expected to meet only about 50% of the demand in rural areas.”<sup>15</sup> The closure of rural hospitals and reduction of hospital-based obstetric care has been “associated with increases in pre-term births and distance traveled for obstetric care, which may contribute to poor maternal and adverse infant health outcomes.”<sup>16</sup> Since 2012, 13 labor and delivery units have closed in South Carolina, and one in four hospitals in the state do not provide obstetric care today.<sup>17</sup> According to a 2023 report by the March of Dimes:

“[South Carolina women traveled] **9.7 miles and 15.9 minutes**, on average, to reach the closest ‘birthing hospital.’<sup>f</sup> Those living in counties with the highest travel times (top 20%) could travel up to 40.9 miles and 50.1 minutes, on average, to reach their nearest birthing hospital. Overall, 8.7% of women in South Carolina have no birthing hospital within 30 minutes of where they reside. In rural areas, 100% of women live more than 30 minutes from a birthing hospital, compared to 8.5% of women living in urban areas. Women living in counties without hospitals or birth centers offering obstetric care and no obstetric providers **traveled 2.1 times farther** than women living in areas with full access to maternity care in South Carolina.”<sup>18</sup>

<sup>f</sup> This average includes women in urban areas of the state.

*8.7% of women in South Carolina have no birthing hospital within 30 minutes of where they reside.<sup>18</sup>*

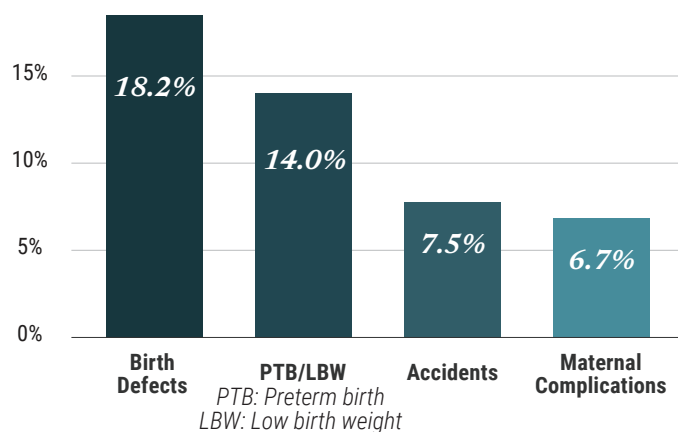




South Carolina earned its grade of F from the 2024 March of Dimes report card for the state's 11.6% preterm birth rate, placing 44th out of 50 states.<sup>19</sup> South Carolina's infant mortality rate of 6.8% placed us 40th out of 50 states (391 babies died before their first birthday in South Carolina in 2022).<sup>20</sup> The Report Card also found that the leading causes of infant death included birth defects, preterm birth/low birth weight, accidents, and maternal complications.<sup>21</sup>

The reasons for poor maternal and infant health outcomes, exacerbated in rural areas of the state, are varied and range from the health of the mother at the time she becomes pregnant, distance to and quality of mental and physical care, and access to transportation, healthy food, education, and other services. Factors like maternal and infant provider maldistribution, labor and delivery unit and hospital closures, transportation challenges, lack of insurance coverage or low provider reimbursement by payers, lower household incomes, inadequate care coordination, and lower levels of education and health literacy can negatively impact maternal and infant health outcomes.<sup>9</sup> In recognition of these factors, this Taskforce enabled the convening of experts from a range of industries, including community-based organizations, data experts, moms from rural areas of the state, medical practitioners, and beyond. Taskforce members engaged in shared learning, brainstorming, and innovative collaboration. In examining the most significant barriers to improving outcomes for moms and babies in rural areas of South Carolina, the resulting recommendations fall into four categories: care delivery, workforce, training and education, and nonmedical drivers of health. Read the Taskforce recommendations beginning on page 43.

**FIGURE 3**  
**Leading Causes of Infant Death in South Carolina, 2020-2022**



Percent of Total Deaths by Underlying Cause

Source: March of Dimes. (2025). 2024 March of Dimes Report Card South Carolina.

## A Win for the State: Transforming Maternal Health (TMaH) Grant

On January 8th, 2025, the South Carolina Department of Health and Human Services (SCDHHS) shared that it had received a Transforming Maternal Health (TMaH) grant from the Centers for Medicare and Medicaid Services (CMS) to “invest in improving maternal health care for South Carolinians enrolled in the Healthy Connections Medicaid program.”<sup>22, 23</sup> SCDHHS will receive **\$17 million through the grant over 10 years**. According to its press release, collaborating entities include managed care organizations, perinatal quality collaboratives, hospitals, birth centers, health centers and rural health clinics, maternity care providers, and community-based organizations.

SCDHHS administers Medicaid and “leads the South Carolina Birth Outcomes Initiative (BOI), [which] was re-launched in fall 2023 and serves as South Carolina’s perinatal quality collaborative.”<sup>24</sup>

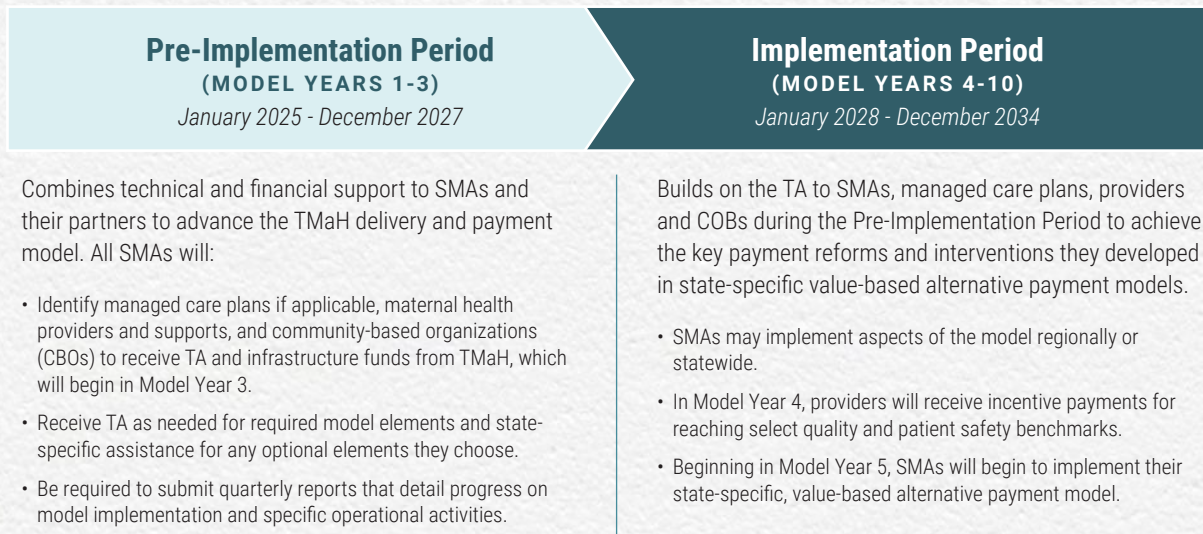
<sup>9</sup> March of Dimes. (2024). March of Dimes Report Card for South Carolina. <https://www.marchofdimes.org/peristats/reports/south-carolina/report-card>



**FIGURE 4**

## Transforming Maternal Health (TMaH) Model Timeline

TMaH model's approach to maternal health includes a Pre-Implementation Period focused on tailored, state-specific technical assistance (TA) that will prepare state Medicaid agencies (SMAs) to successfully implement the care delivery interventions and payment methods in the Implementation Period.

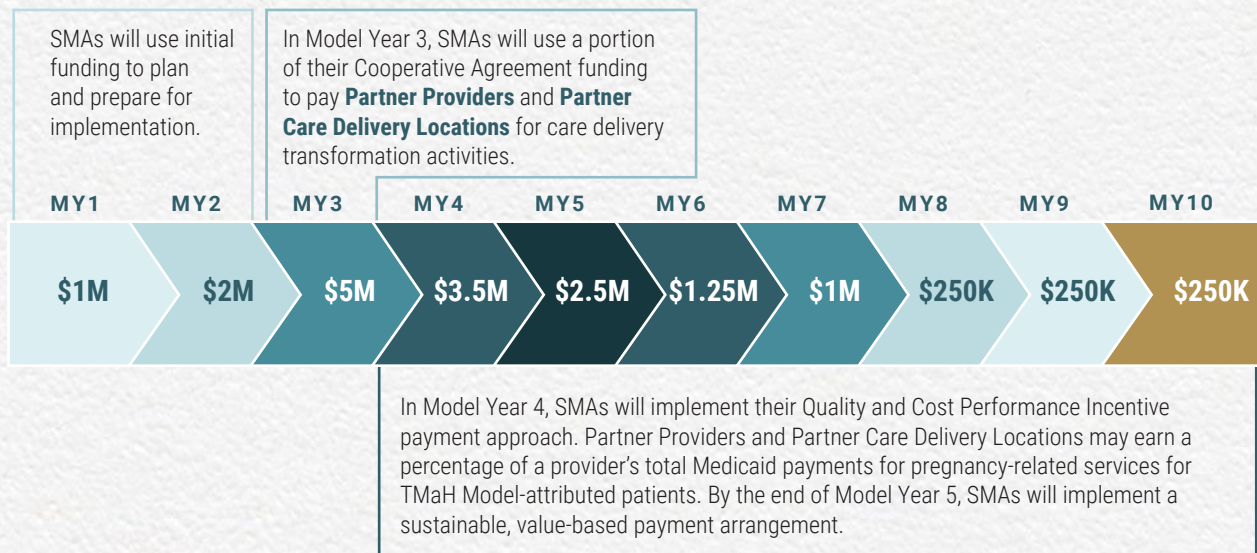


Source: The South Carolina Department of Health and Human Services. (2025). TMaH Model Timeline.

**FIGURE 5**

## Transforming Maternal Health (TMaH) Overview of Model Funding

The following visual demonstrates an overview of the flow of TMaH Model funding from CMS to SMAs.



*All awards are subject to availability of funds. Annual budgets are subject to negotiation, and the maximum funding amounts listed in the graphic above are not guaranteed.*

Source: The South Carolina Department of Health and Human Services. (2025). TMaH Model Timeline.

# Nonmedical Drivers of Maternal and Infant Health

Rural birthing women in South Carolina encounter more barriers to accessing care throughout their maternity cycle than their urban counterparts, and rural women across most of the US have increased preconception health risks.<sup>h</sup> These risk factors include existing chronic health conditions, mental health conditions, and poor nutrition.<sup>25</sup> Rural birthing women across the US also experience higher predicted probability of severe maternal morbidity and admissions to intensive care units.<sup>26</sup> In South Carolina, 26% of residents live in rural areas, and rural women in South Carolina represented 1 in 4 of the severe maternal morbidity events that occurred in calendar year 2023.<sup>27</sup>



**BY 2030,**  
*the anticipated supply  
of OB/GYNs is expected to  
meet only about  
50% of the demand  
in rural areas nationally.*<sup>34</sup>

**FIGURE 6**

## Rural Maternal and Infant Health Overview in South Carolina, 2023

### URBAN VS. RURAL HOME ADDRESS

Urban: **73%**

Rural: **26%**

Women of color comprised roughly 41% of deliveries among rural residents.

Rural residents represented **1 in 4** severe maternal morbidity events.

**1,787**

Babies born prematurely to mothers in rural areas.

Medicaid paid for **71% of rural deliveries** (vs. 60% statewide).

**19%**

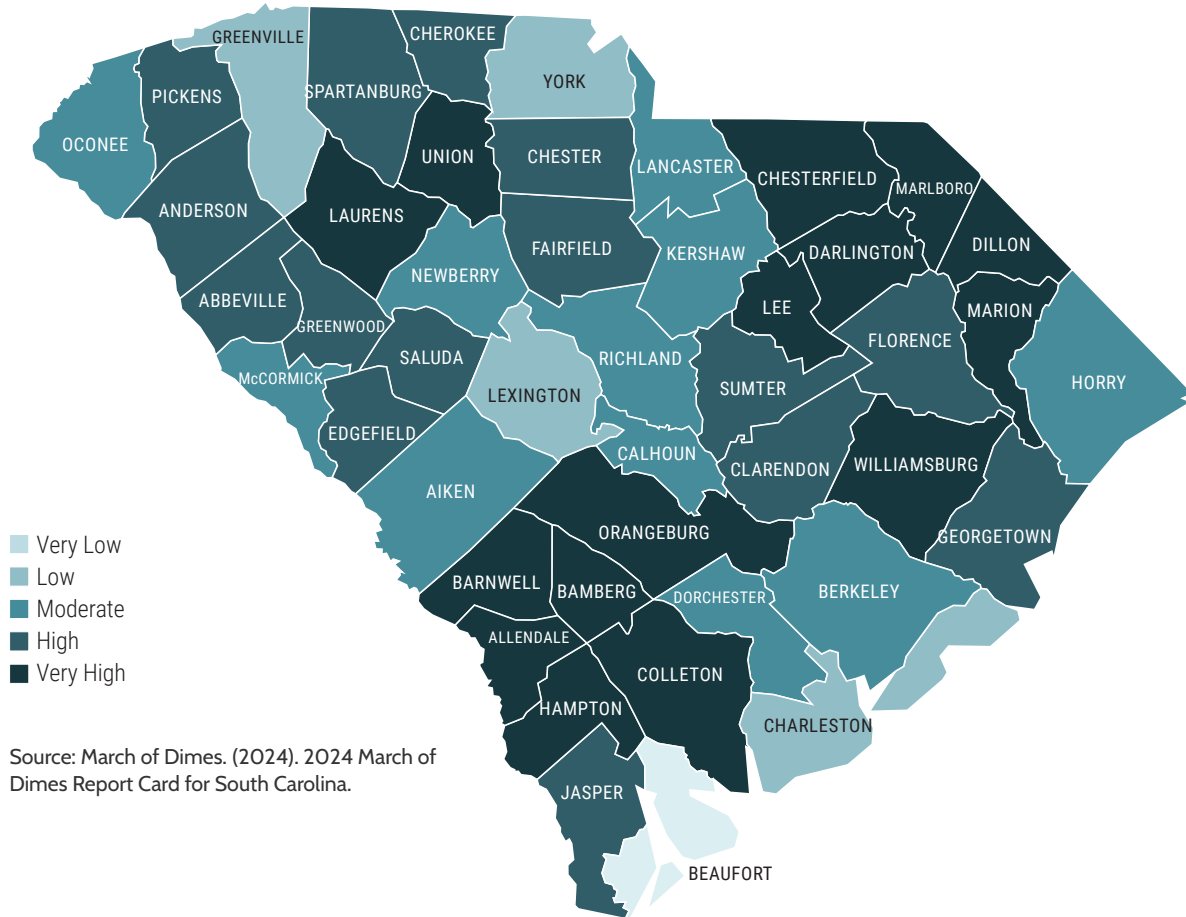
of rural women had a prenatal or postpartum mental health diagnosis.

Source: Institute for Families in Society. (2024). How Data Drives Action – South Carolina Maternal Health Data Snapshot.

There are several factors influencing these differences between rural and urban outcomes, including health care provider maldistribution across the state, labor and delivery unit and hospital closures in rural areas, transportation challenges, lack of insurance coverage, lower household incomes, lack of care coordination, and lower levels of education and health literacy.<sup>28</sup> Over half of the counties in South Carolina are also considered to be medically underserved areas, meaning they have “too few primary care providers, high infant mortality, or a high poverty and/or high elderly population.”<sup>29, 30</sup> This combination of insufficient health care access and nonmedical drivers of health “represent identifiable risks for maternal mortality.”<sup>31</sup>

<sup>h</sup> Maternity care is split into three stages: prenatal care, care during birth, and postpartum care.

## Maternal Vulnerability Index (MVI) by County in South Carolina, 2024<sup>i</sup>



One way to assess the risk of poor maternal health outcomes is through the use of the Maternal Vulnerability Index. The Index offers, “a tool to identify where and why mothers in the United States are vulnerable to poor health outcomes.”<sup>i</sup>

South Carolina has a maldistribution of providers, with large amounts of obstetricians in urban counties (see Map 3). This mirrors a trend across the US with their geographic distribution also being “uneven, contributing to differences in access in rural areas.”<sup>32, 33</sup> By the year 2030, the “anticipated supply of OB/GYNs is expected to meet only about 50% of the demand in rural areas” nationally.<sup>34</sup> The closures of rural hospitals and reduction of hospital-based obstetric care have been “associated with increases in pre-term births and distance traveled for obstetric care, which may contribute to poor maternal and adverse infant health outcomes.”<sup>35</sup>

In rural communities across the US, family medicine providers have “historically provided both prenatal and obstetric care and are attending fewer births and providing prenatal care less frequently over time” at the state and national levels.<sup>36, 37</sup> These provider-related factors exacerbate access issues in rural communities.

In South Carolina, 71% of rural deliveries were paid for by Medicaid compared to 60% statewide.<sup>38</sup> Facilities and providers in rural areas find it hard to generate revenue for obstetric services.<sup>39</sup> Rural hospitals can be “susceptible to health care cost barriers”<sup>40</sup> due to factors such as “financial responsibility being placed on rural patients through increased deductibles, copays, and coinsurance.”<sup>41</sup> These financial barriers can cause rural residents to delay seeking care and may lead to bad debt or charity care for hospitals.<sup>42, j</sup>

<sup>i</sup> Differences in counties are measured using numerous factors broken into six themes: reproductive health care, physical health, mental health and substance use disorders, general health care, socioeconomic determinants and physical environment. This year’s state report cards display the top two factors from the MVI that make women most vulnerable to poor outcomes. The MVI assigns a score of 0-100 to each geography, where a higher score indicates greater vulnerability to adverse maternal outcomes.

<sup>j</sup> Charity care is care for which hospitals never expect to be reimbursed. A hospital incurs bad debt when it cannot obtain reimbursement for care provided; this happens when patients are unable to pay their bills but do not apply for charity care or are unwilling to pay their bills. Uncompensated care excludes other unfunded costs of care, such as underpayment from Medicaid and Medicare. Source: American Hospital Association: (2010). Uncompensated Hospital Care Cost. <https://www.aha.org/system/files/content/00-10/10uncompensatedcare.pdf>.



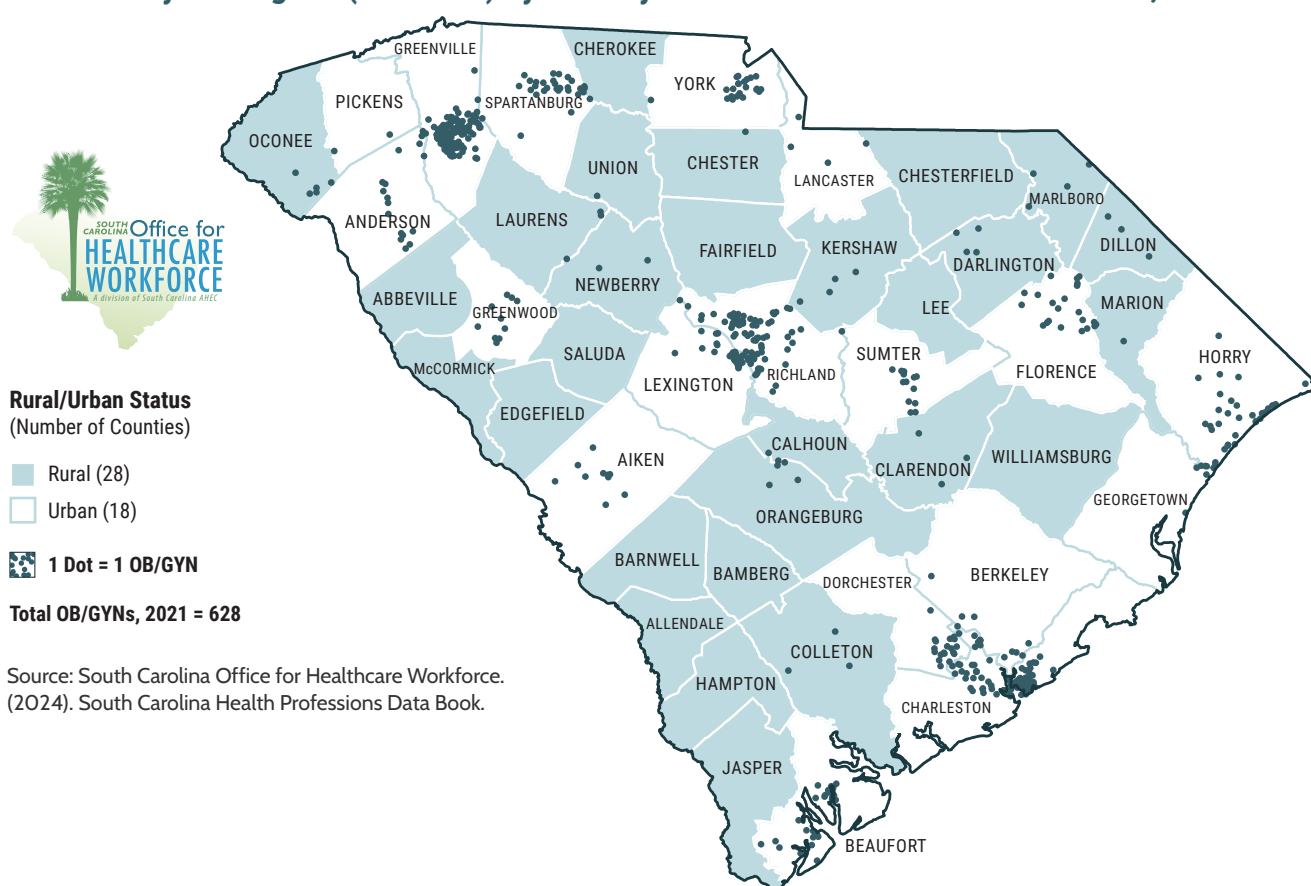
While many of the factors causing the barriers to accessing care for women residing in rural counties are directly related to health care delivery systems, many are also related to nonmedical drivers of health.<sup>k</sup> There is growing evidence that nonmedical drivers of health have a negative impact on maternal health and that rural women and women of “understudied, underrepresented, and underreported” populations are more vulnerable to adverse outcomes associated with nonmedical drivers of health.<sup>43, 44, 45, l</sup> Some of the nonmedical drivers of health impacting maternal health outcomes include the following: **access to safe food, housing, environments, access to education, and emergency/health services.**<sup>46</sup>

The socioeconomic barriers to accessing care for rural women include poverty, housing instability, food insecurity, transportation challenges, and lack of education and employment opportunities.<sup>47</sup> Housing instability can lead to health risks for pregnant women, including low birthweight and preterm birth.<sup>48</sup> Transportation challenges leading to long drive times to access labor and delivery care are associated with poor outcomes because “the farther a person travels to their birthing hospital, the greater the risk of maternal morbidity outcomes.”<sup>49</sup> The possible outcomes include increasing rates of severe maternal morbidity, avoidable C-sections, low birthweight, and prematurity.<sup>50</sup> Lower education levels can result in low health literacy, leading to barriers to accessing care. Patients may not understand health information and instructions and may feel intimidated to ask follow-up, clarifying questions.<sup>51</sup>

Access to care varies significantly between rural and urban areas, leading to differences in health outcomes. There is a need for targeted interventions and policies to improve access to care, regardless of geographic location.

**MAP 3**

**Obstetrician-Gynecologists (OB/GYNs) by Primary Practice Location in South Carolina, 2021**



<sup>k</sup> “Nonmedical drivers of health are “the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life.” Source: Pan American Health Organization. (n.d.). Social Determinants of Health. <https://www.paho.org/en/topics/social-determinants-health#:~:text=Determinants%20of%20Health,Social%20Determinants%20of%20Health,the%20conditions%20of%20daily%20life%E2%80%9D>.

<sup>l</sup> U3 (Understudied, Underrepresented and Underreported) is a framework developed by the Office of Research on Women’s Health (ORWH), to highlight the intersectional experiences of women across social context domains as they contribute to different health outcomes for individuals and communities. Established in 1990, the ORWH is the first Public Health Service office dedicated specifically to promoting women’s health research within and beyond the National Institutes of Health (NIH) scientific community. Source: National Institutes of Health – Office of Research on Women’s Health. (n.d.). What is U3?. <https://orwh.od.nih.gov/womens-health-research/interdisciplinary-research/u3-interdisciplinary-research>.



# Barriers to Accessing Timely and Appropriate Maternal Health Care

When examining access to health care in rural areas, it is critical to use a lens that integrates the five domains of access to care. Together, affordability, availability, accessibility, accommodation, and acceptability comprise the five domains of access in an expanded definition of access to care.<sup>52</sup> In this context, affordability is characterized as an individual's ability to pay for health care services.<sup>53, 54</sup> Availability refers to how well a provider can meet patient needs based on the adequacy of available resources.<sup>55, 56</sup> These resources include things such as staffing capacity, technology, adequate facilities, financial resources, time, and specialized knowledge/expertise.<sup>57, 58</sup> Accessibility in this context refers to the geographic accessibility of services and how easily patients can physically get to their providers.<sup>59, 60</sup> Accommodation refers to the extent to which providers can and are willing to meet patient preferences.<sup>61, 62</sup> Examples of patient constraints and preferences can include things like hours of operation, how communications are handled, availability of emergency appointments, and average response and wait times.<sup>63, 64</sup> Acceptability in this context refers to the level of comfort patients and providers feel regarding the appropriateness of care across social contexts.<sup>65, 66</sup> These include factors such as patient-provider characteristics like age, sex, and race/ethnicity as well as patient diagnosis type and coverage type. Accommodation and acceptability of care are frequently overlooked when developing interventions and exploring policy levers aimed to improve access to care in rural areas.<sup>67, 68</sup>

Rural residents face compounding barriers to accessing adequate care across all domains, exacerbating the factors that prevent the delivery of acceptable and appropriate care to the most vulnerable and underserved populations across our state.<sup>69</sup> Variation in the geographic distribution and supply of primary care and maternal health care providers offer limited insight into the accessibility crisis in rural communities.<sup>70, 71</sup> Permitting there is an adequate supply of providers geographically accessible to a community, rural residents face unique barriers that impede access as compared to urban counterparts including higher uninsured rates, limited financial means, greater medical debt, restricted transportation access, limited confidence in the ability to communicate with health care providers, lack of trust that privacy will not be compromised, and limited confidence that they will receive quality care.<sup>72, 73</sup>

A recent qualitative study investigating barriers and facilitators of improving access to care in rural areas revealed friction between the rural identities of patients and the health care system, information asymmetry and systematic fragmentation of communication, time and resource constraints, and the prioritization of profits over quality as key barriers.<sup>75</sup> A critical facilitator identified included respect for cultural differences in the delivery of care.<sup>75</sup> In their Rural Maternal Health Toolkit, the Rural Health Information Hub underscores the importance of appropriate care when exploring policy levers and developing interventions aimed to improve maternal health care.<sup>76</sup>

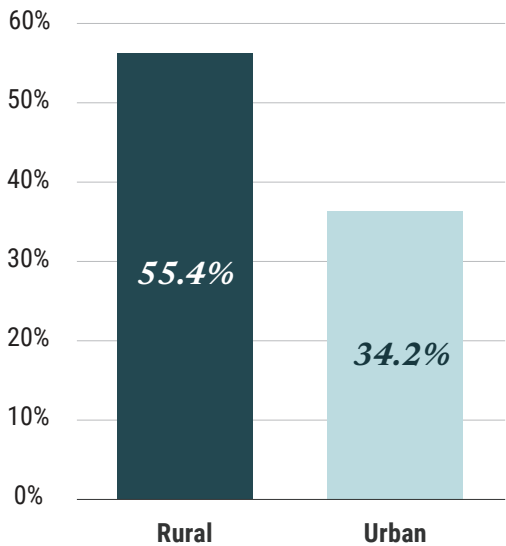


Looking at maternal health specifically, rural and historically low-access groups are disproportionately impacted by differences in access to adequate care with rural women and women of color faring worse than their urban and white counterparts.<sup>78</sup>

FIGURE 7

South Carolina Pregnancy-Related Mortality Rate, by Rurality

(Rate per 100,000 live births; 2018-2021)

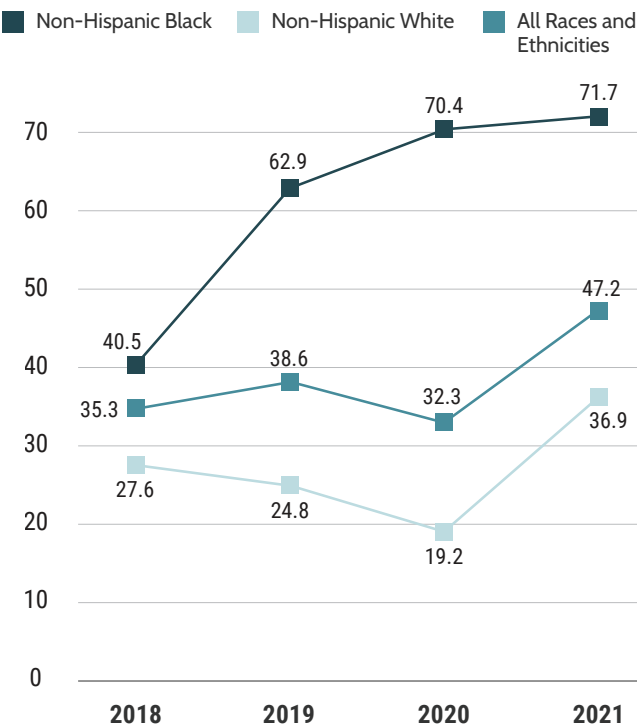


Source: South Carolina Maternal Morbidity and Mortality Review Committee. (2025). Legislative Brief.

FIGURE 8

South Carolina Pregnancy-Related Mortality Rate, by Race and Ethnicity

(Rate per 100,000 live births; 2018-2021)



Source: South Carolina Maternal Morbidity and Mortality Review Committee. (2025). Legislative Brief.

Maternal health care workforce shortages, provider maldistribution, and hospital closures compounded with gaps in accommodation and acceptability of maternal health care are significantly impacting maternal and infant health outcomes in minority and rural communities across the state.<sup>79</sup> In their 2024 Maternal Health Report Card, March of Dimes reports a the preterm birth rate among babies born to Black mothers being 1.4 times higher than the rate among all other babies and the infant mortality rate among babies born to Black mothers being 1.8 times higher than the state average.<sup>80</sup>

While it is imperative that geographic and affordability barriers to adequate care be alleviated for these populations, it is critical that community-specific lenses be applied to understand barriers and facilitators for improving culturally-centered maternal health care that are unique to rural populations. Evidence-based best practices include the engagement of community members in strategy development, cultural centeredness across the pregnancy care continuum, provider awareness of historical trauma in the context of birth experiences and outcomes, provider acknowledgement of the role of culture in screening and treatment recommendation uptake, and leveraging community-based allied health professionals to bridge cultural barriers.<sup>81</sup>

# Maternal Health Care Facilities in South Carolina


## Facilities

The impact of access to maternal and infant care varies widely and is multifaceted; however, the difference in maternal and infant health outcomes is evident when considering individuals that reside in rural communities compared to their urban counterparts.<sup>82</sup>

In South Carolina the maternal mortality rate per 100,000 live births was 47.2 in 2021, whereas the national rate per 100,000 births was 32.9; South Carolina ranks 8th for maternal mortality in the US.<sup>83</sup> In 2022, the state's infant mortality rate per 1,000 live births was 6.8 compared to the 5.6 national rate, ranking South Carolina as 40th for infant mortality in the nation.<sup>84, 85</sup>

Thirteen labor and delivery units have closed in South Carolina since 2012.<sup>86</sup> According to a 2024 March of Dimes report, nearly 13% of counties in South Carolina have low access to maternity care.<sup>87</sup>

Individuals living in communities that do not have local maternity care services are less likely to receive adequate prenatal and postpartum care; additionally, mothers and infants in communities without local maternity care services have a higher risk of complications and death.<sup>88</sup>



*South Carolina ranked  
**40th**  
in the nation for  
infant mortality.<sup>85</sup>*



## Hospitals

Access to hospital-based childbirth in rural US communities is a growing concern. Within the last two years, more than 50 hospitals in rural communities across the country have stopped delivering babies.<sup>89</sup> Of the 24 Rural Hospitals and Rural Emergency Hospitals (REHs) in South Carolina, 10 (42%) do not have labor and delivery services.<sup>90</sup> The median driving time to a hospital providing OB labor and delivery services for individuals within these rural South Carolina communities is 38 minutes.<sup>91, 92</sup>

MAP 4

## Distance to Birthing Hospital by County in South Carolina\*

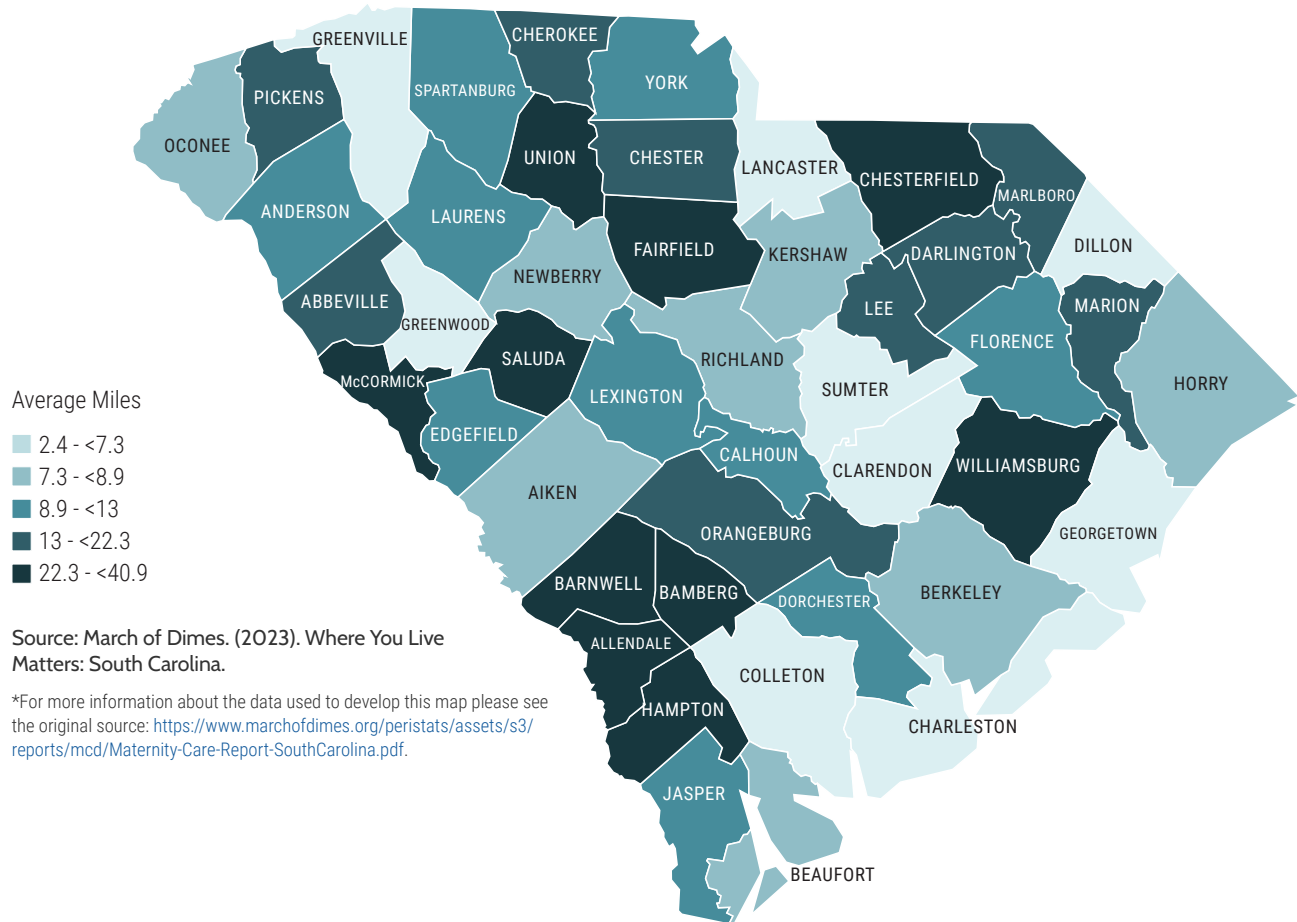
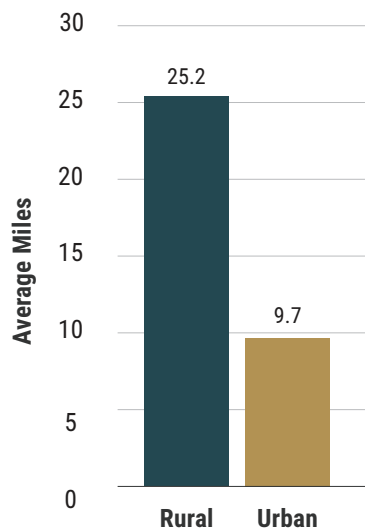


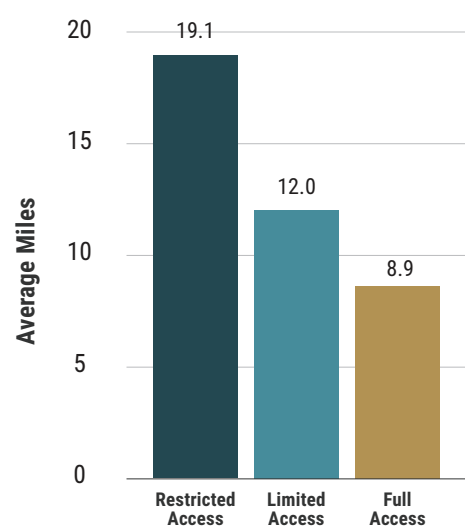
FIGURE 9

## Distance to Obstetric and Neonatal (newborn to 28 days old) Care in South Carolina, 2024

### Distance to Maternity Care by Rurality



### Distance to Care by Maternity Care Access<sup>m</sup>



Source: March of Dimes. (2024). Where You Live Matters: South Carolina.

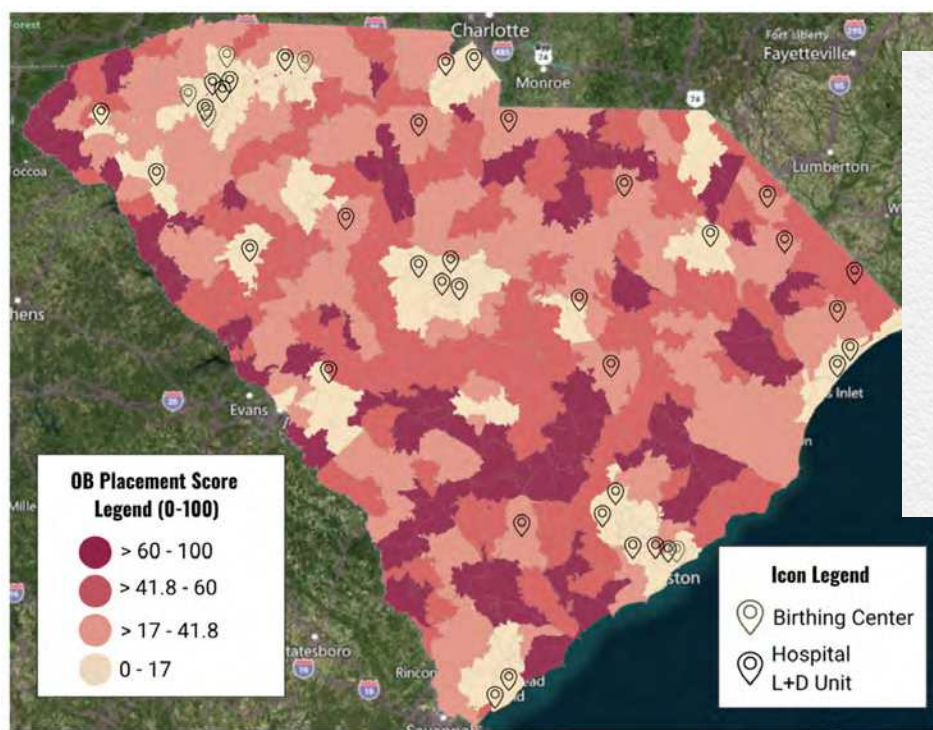
<sup>m</sup> These categories are defined in the table on page 23. Please note that the low and moderate categories were combined to create the "limited access category" in this graph, according to March of Dimes technical notes. <https://www.marchofdimes.org/peristats/assets/s3/reports/documents/MaternityCareDesertsReport-TechnicalNotes.pdf>.



Furthermore, of the 14 rural hospitals still providing labor and delivery services, 29% have decreased the number of available patient services. The median driving time to an alternative hospital, with OB services, from these rural communities is 39 minutes; however, some individuals drive over 60 miles to receive labor and delivery care.<sup>93, 94</sup> For comparison, most urban areas have a driving time to a hospital providing labor and delivery services of under 20 minutes.

MAP 5

### Overlay of Obstetrics Placement Score, Birthing Centers and Hospitals with Labor and Delivery Units in South Carolina, 2024



Developed by the South Carolina Center of Rural and Primary Healthcare at the University of South Carolina, the OB (Obstetric) Placement score is a tool used to indicate the need for an obstetrics provider in any specific area of the state based on the following indicators: birth rate, percentage of women aged 15-50, the ratio of health care facilities to population, OB's per capita, and distance to nearest obstetric provider. Areas assigned higher scores indicate a greater need for obstetric providers.<sup>91</sup>

Sources: Center for Rural and Primary Health, South Carolina Department of Public Health, South Carolina Hospital Association. (2024). SC Rural Healthcare Resource Dashboard, ArcGIS Web Application.

With limited options of maternity care facilities in rural communities, low-volume hospitals are often the only hospitals within a reasonable driving time.<sup>95, 96</sup> There are many challenges for hospitals that are associated with low birth volume including maternity care workforce shortages, financial challenges, and difficulties in maintenance of clinical competency required for quality management of high risk or emergent situations.<sup>95</sup> An analysis of hospital birth volume and maternal health outcomes was conducted in four states, including South Carolina, finding considerable risks for mothers linked to delivering a baby at a lower volume rural hospital.<sup>96</sup> Approximately 88.9% of pregnancy-related deaths are preventable if adequate amounts of prenatal, labor and delivery, and postpartum care are provided; however, challenges in receiving this care for individuals in rural communities continue to increase with rural hospitals limiting or ending maternity care services.<sup>97, 98</sup>

<sup>91</sup> South Carolina Center for Rural and Primary Healthcare, School of Medicine, University of South Carolina. (n.d.). SC Rural Healthcare Resource Dashboard.

<sup>96</sup> Low-volume hospitals (LVH) are designated as facilities with "fewer than 3,800 patient discharges in the previous year which are more than 15 miles from the nearest inpatient prospective payment system (IPPS) acute care hospital." Acute care hospitals with IPPS designation operate using a payment structure under Section 1886(d) of the Social Security Act where operating costs of acute care hospital inpatient stays under Medicare Part A are reimbursed based on prospectively set rates. Source: Centers for Medicare and Medicaid Services. (2024, October 16). Acute Inpatient PPS. <https://www.cms.gov/medicare/payment/prospective-payment-systems/acute-inpatient-pps>.



## Birthing Centers

Additional facilities with obstetric care capabilities within the state may aid in improving maternal and infant health outcomes. Birthing centers are defined as a facility or place where a birth is planned to occur excluding a patient’s usual residence, any other facility licensed as a hospital, or the private practice of a physician attending the birth.<sup>99</sup> South Carolina currently has five Department of Public Health licensed birthing centers; four are located in the Upstate and one in the Lowcountry as depicted below in Table 1.<sup>100</sup> The limited geographical distribution of currently licensed birthing centers in South Carolina may play a role in hindering improved maternal and infant health outcomes.

TABLE 1

**Birthing Centers Licensed by the South Carolina Department of Public Health, 2024**

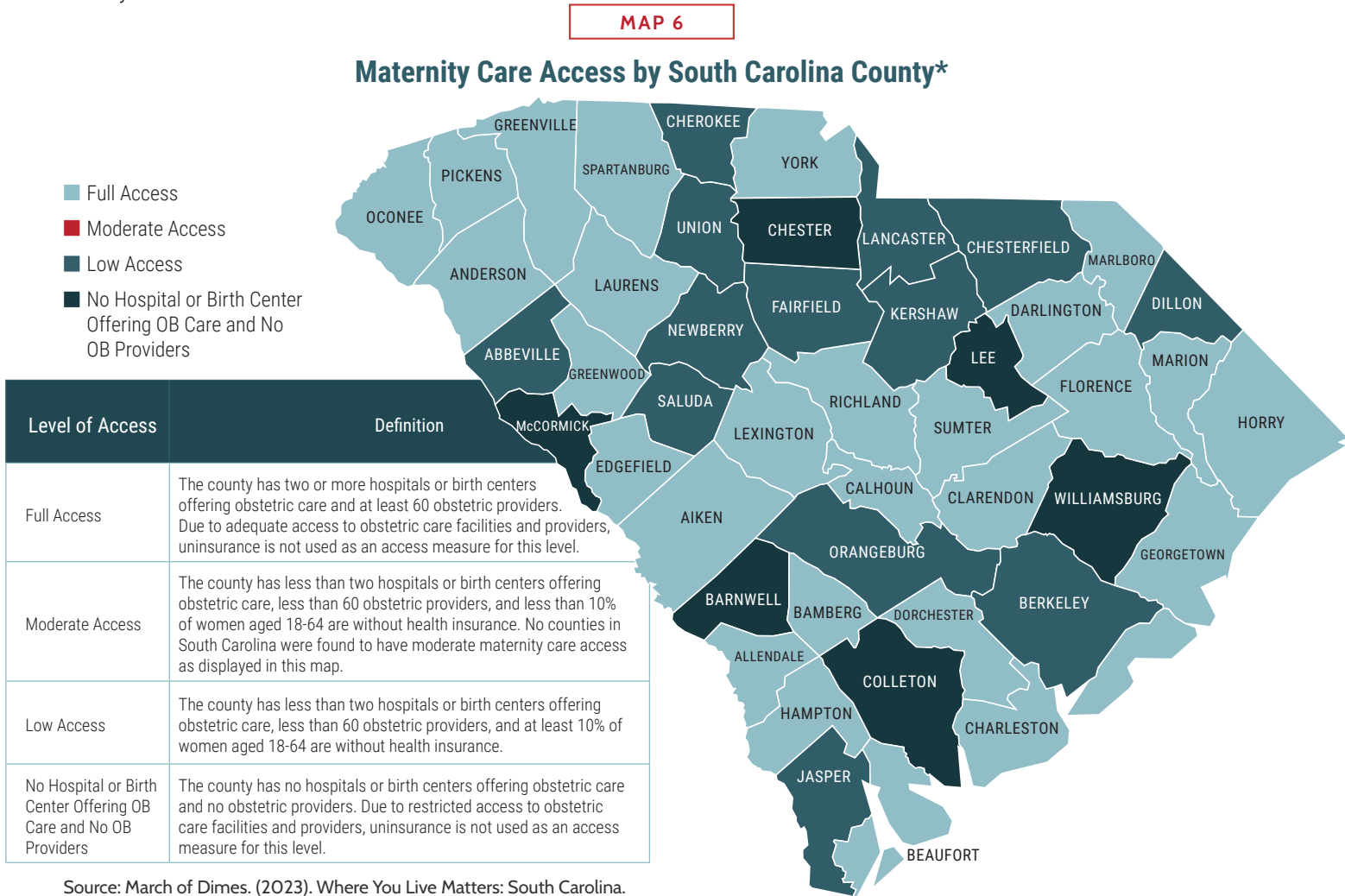
Name of Facility	City	Zip Code	Number of Birthing Rooms
Carolina Birth Center	Greenville	29611	1
Celestial Sanctuary	Greer	29651	2
Charleston Birth Place	Mount Pleasant	29464	4
Genesis Birth and Wellness LLC	Greenville	29605	2
Labors of Love Birth Center	Spartanburg	29307	2

Source: Center for Rural and Primary Health, South Carolina Department of Public Health, South Carolina Hospital Association. (2024). SC Rural Healthcare Resource Dashboard, ArcGIS Web Application.

# Maternal and Infant Health Workforce in South Carolina

Enhancing the infrastructure for maternal health care across the entire care continuum in rural communities has persisted as a pervasive challenge exacerbated by maternal health workforce shortages. When assessing workforce challenges in rural areas, it is not only important to address access from affordability, availability, accessibility, accommodation, and acceptability lenses but to critically assess where patients are comfortable receiving care and from whom. In rural areas, primary care and family medicine practitioners fill critical gaps in the provision of maternal health care and have crucial roles in cultivating patient-provider relationships, building patient trust in the health care system, providing wrap-around services, coordinating high-quality care, facilitating referrals to specialty care, and contributing to patient awareness of available services and community-specific resources. These practitioners often report a perceived broader scope of practice compared to urban counterparts and are more likely to be expected to complete additional demands beyond their traditional responsibilities within the same time frame.<sup>101, 102</sup> In South Carolina there is approximately one primary care physician per 1,490 residents compared to the national average of 1,330:1.<sup>103</sup>

South Carolina faces significant geographic maldistribution of maternal health care providers, creating variations in access to adequate maternal health care. Compared to urban counterparts who travel an average of 9.7 miles to maternal health care, rural mothers travel an average of 25.2 miles to care.<sup>104</sup> Map 6 provides an overview of maternity care access by county in South Carolina.

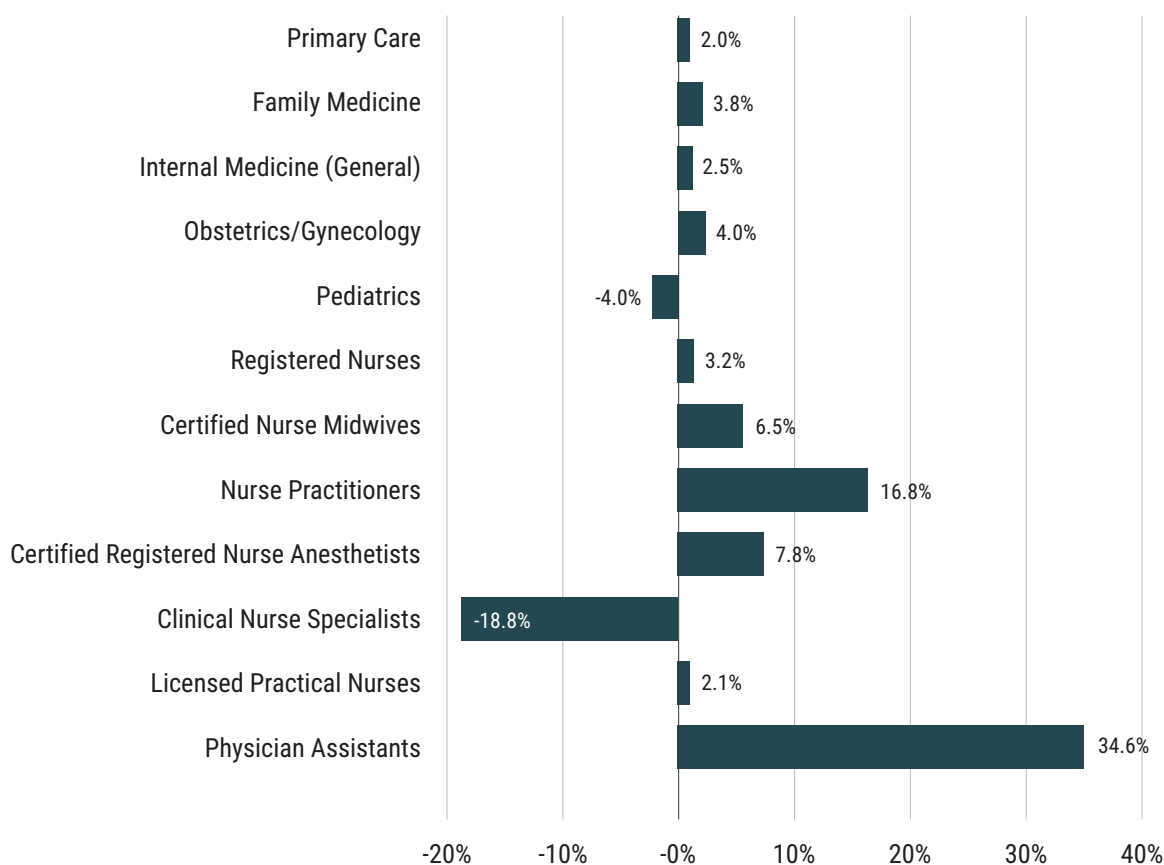


Source: March of Dimes. (2023). Where You Live Matters: South Carolina.  
\*For more information about the data used to develop this map please see the original source: <https://www.marchofdimes.org/peristats/assets/s3/reports/mcd/Maternity-Care-Report-SouthCarolina.pdf>.

Understanding trends in the recruitment and retainment of physicians in South Carolina is critical to developing a preliminary understanding of how to address workforce challenges over the next 10 years. It has been demonstrated that medical school and residency location can significantly impact where physicians elect to practice with retainment being higher if physicians complete both medical training and residency training in South Carolina.<sup>105</sup> It is estimated that only 25% of South Carolina medical school graduates stay in South Carolina for residency training, and approximately 52% of South Carolina medical school graduates match to a primary care specialty residency program.<sup>106</sup> As of 2024, 14% of South Carolina medical school graduates matched to a South Carolina-based family medicine residency, 19% to internal medicine, 6% to obstetrics/gynecology, and 6% to pediatrics.<sup>107</sup> Figures 10 and 11 provide an overview of changes in licensed health professionals and rural-urban differences in providers supporting the maternal health workforce across the state.<sup>108</sup>

**FIGURE 10**

**Percent Change in the Ratio of Licensed Health Professionals per 10,000 Population, 2019/2020 to 2021/2022**

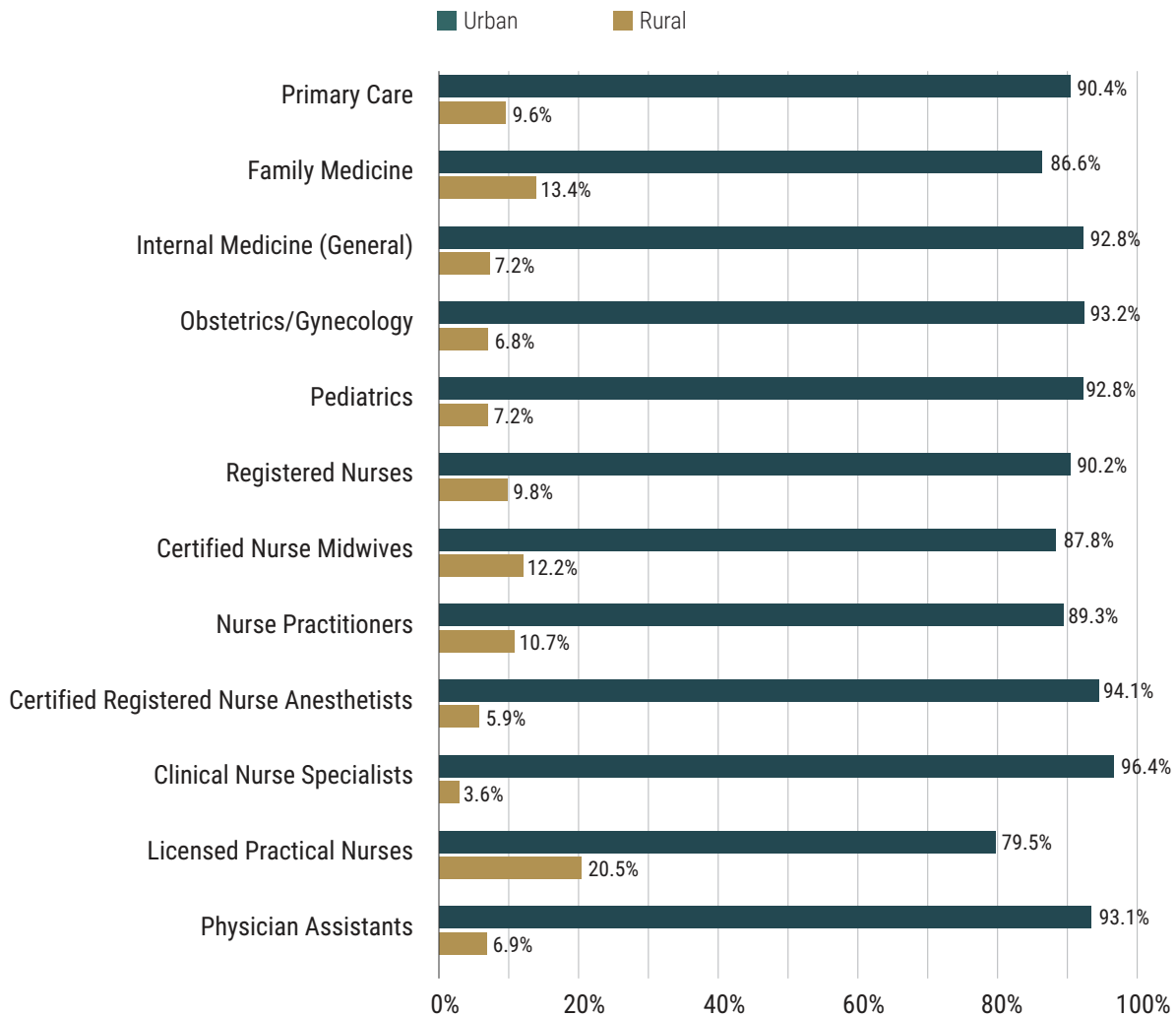


Source: South Carolina Office for Healthcare Workforce. (2024). South Carolina Health Professions Data Book.



**FIGURE 11**

## Rural/Urban Differences in Provider Supply in South Carolina, 2021



Source: South Carolina Office for Healthcare Workforce. (2024). South Carolina Health Professions Data Book.

Maternal health care is provided by a wide variety of providers, each playing a critical role in providing adequate care across the entire maternal care continuum and meeting the unique needs of patients in rural communities. Among these providers are physicians (obstetricians, pediatricians, psychiatrists, etc.), physician assistants, Advanced Practice Registered Nurses (certified nurse midwives and nurse practitioners), community doulas, community health workers, peer support specialists, psychologists, lactation consultants, and social workers. Differences in educational and training requirements, licensing and accreditation processes, and scope of practice regulations present a challenge to identifying strategies to strengthen the maternal health care workforce in rural communities.

# Maternal and Infant Behavioral Health in South Carolina

Behavioral health is an important consideration when discussing overall health. Behavioral health refers to a state of mental, emotional, and social well-being.<sup>109</sup> Mental health and substance use disorders fall under the larger umbrella term of behavioral health and may coexist, referred to as co-occurring disorders.<sup>110, 111</sup>



## *Mental Health*

Mental health conditions are considered to affect an individual's thinking, feeling, behavior, or mood and are critical at every stage of life.<sup>112, 113</sup>

Mental health conditions are far more common than most would think; in the US, one in five adults and one in six youth aged 6-17 experience a mental health condition each year.<sup>114</sup>

The second leading cause of maternal deaths in South Carolina in 2021 was mental health conditions/substance use disorders (SUDs) (infections were the leading cause of pregnancy-related deaths in 2021 due in part

to COVID-19), according to the South Carolina Maternal Morbidity and Mortality Review Committee 2025 Legislative Brief.<sup>115</sup> One of every five pregnant or postpartum women are diagnosed with mental health conditions every year; however, 75% of the individuals experiencing maternal mental health conditions are untreated and undiagnosed.<sup>116</sup> Screenings for mental health conditions are key in identifying and treating patients to improve maternal health outcomes. Unfortunately, prenatal and postpartum evidence-based mental health screenings and referrals are sometimes not adopted because of patient, provider, and systems-level barriers such as time constraints, lack of awareness about available resources, limited familiarity with screening and referral tools, and lack of confidence in adequately addressing mental health conditions.<sup>117</sup>

Potential efforts to mitigate poor maternal health outcomes due to mental health concerns are being and have been explored by many experts in South Carolina. A study by the Medical University of South Carolina (MUSC) notes that mental health treatment services are often located in a health system outside of where patients receive prenatal and postpartum care, sometimes resulting in a lack of communication and care coordination among providers.<sup>118</sup> This study suggests that text and telephone screening and referral can improve maternal health through increased detection of prenatal and postpartum mental health conditions and SUDs. Additionally, this form of screening may improve participation in treatment for mental health conditions and SUDs.

Mental health conditions can impact individuals from all age groups.<sup>119</sup> The South Carolina Infant Mental Health Association (SCIMHA) works to "promote healthy growth for young children, prevent mental health problems, and provide opportunities to treat mental health disorders early."<sup>120</sup> Infant mental health includes healthy social and emotional development and ultimately impacts well-being and lifelong outcomes.<sup>121</sup>



## *Substance Use Disorders (SUDs)*

The Substance Abuse and Mental Health Services Administration (SAMSHA) defines substance use disorders (SUDs) as occurring when “the recurrent use of alcohol and/or drugs causes clinically significant impairment, including health problems, disability and failure to meet major responsibilities at work, school or home.”<sup>122</sup> Diagnosing SUDs at any point in the pregnancy continuum requires a comprehensive medical history and a complete physical examination.<sup>123</sup> There are significant barriers to diagnosing prenatal and postpartum SUDs, namely many pregnant women may fear repercussions, judgment, and involvement of social services, leading to hesitancy in disclosing and/or avoiding prenatal care altogether.<sup>124</sup>

Individual susceptibility to SUDs is multifaceted and may include genetic, environmental, psychological, biological, and socioeconomic factors.<sup>125</sup> Research shows that the risk of developing an SUD increases throughout reproductive years and is highest for women aged 18 to 29 years old.<sup>126</sup> In order to improve maternal health outcomes, the American College of Obstetrics and Gynecologists recommends early universal screening for substance use be implemented as part of comprehensive obstetric care.<sup>127</sup>



## *Early Relational Health*

Research continues to grow and present new frameworks regarding key factors related to behavioral health.<sup>128</sup> A relatively new framework, early relational health, is defined by the American Academy of Pediatrics as “a framework that explores the role of early relationships and experiences in healthy development across a child’s lifetime.”<sup>129</sup>

Early relational health promotes health and development, leads to positive experiences, and may buffer negative experiences such as trauma and other adverse experiences.<sup>130</sup> Increasing evidence shows resilience throughout childhood can be linked to family resilience, family connection, and positive relational experiences, even in the face of adversity.<sup>131</sup> This evidence further demonstrates the need for maternal behavioral health to be addressed and improved, thus improving the likelihood of positive relational experiences for infants during development.

# Adverse Childhood Experiences in Rural Communities

Defined as preventable, potentially traumatic events in childhood, adverse childhood experiences (ACEs) are commonly categorized by the following experiences:<sup>132, 133, 134</sup>

- Domestic Violence
- Emotional, Physical, and/or Sexual Abuse
- Behavioral Health Conditions of Someone in the Household
- Food Insecurity
- Homelessness
- Economic Hardship
- Parental Separation (Including Incarceration and Divorce)

It has been demonstrated that the more ACEs an individual experiences, the higher the risk for negative health outcomes across the lifespan.<sup>135, 136</sup> Commonly reported adverse health outcomes linked to ACE exposure include depressive disorder, heart disease, asthma, kidney disease, liver disease, diabetes, cancer, and chronic obstructive pulmonary disease (COPD).<sup>137, 138, 139</sup> Exposure to ACEs is also linked to an increased uptake of risky health behaviors such as smoking, binge drinking, and substance misuse, as well as adverse outcomes including a higher likelihood of having no health care coverage, never having a health care checkup, and being more likely to report medical costs as a barrier to care and less likely to have a primary care physician.<sup>140</sup>

Compared to children in urban areas, children living in rural areas report higher rates of ACEs across parental separation, parental death, household mental health, household substance misuse, household incarceration, household violence, and economic hardship domains.<sup>141</sup> The relationship between ACE exposure and negative health outcomes is linked through prolonged activation of the stress-response system.<sup>142</sup> Prolonged exposure to chronic stress and activation of the stress-response system can significantly impact the ability for nervous, immune, and

endocrine systems to function properly and disrupt healthy brain development in infants and children.<sup>143, 144</sup> Nationally, rural children are more likely to report experiencing four or more ACEs compared to urban counterparts.<sup>145</sup> The same study reports that the odds of experiencing four or more ACEs decreases as poverty level decreases.<sup>146</sup>

In South Carolina, 64.6% of adults report experiencing at least one ACE.<sup>147</sup> Of all adults experiencing at least one ACE (64.6%), 22.4% of adults report experiencing one ACE, 20.6% report experiencing two to three ACEs, and 21.5% report experiencing more than four ACEs.<sup>148</sup> The economic burden of

**NATIONALLY,**  
*ACEs comprise*  
***\$183 Billion***  
*in medical spending.*<sup>150</sup>

ACEs can be estimated using direct medical spending and economic loss from reduced healthy life years for health conditions associated with ACE exposure.<sup>149</sup> Nationally, ACEs cause \$183 billion in medical spending and \$13.9 trillion in lost healthy life years annually with one lost healthy life year representing one full year of healthy life lost to disability or poor health.<sup>150</sup> Together, health conditions related to ACEs comprise a total economic burden of \$14.1 trillion each year.<sup>151</sup> Information regarding the economic burden of ACEs in South Carolina is provided in Tables 2 and 3.



TABLE 2

### Annual Economic Burden of ACEs on Disability-Adjusted Life-Years and Medical Spending in South Carolina (Millions), 2019

Health Condition	Annual ACE Disability-Adjusted Life-Years Economic Burden among Adults by Health Condition in South Carolina (Millions) <sup>p</sup>	Annual ACE Medical Spending among Adults by Health Condition in South Carolina (Millions) <sup>q</sup>
Anxiety	\$4,022	\$161
Arthritis	\$2,195	\$159
Asthma	\$1,800	\$88
Cancer	\$16,335	\$140
COPD	\$12,781	\$122
Depression	\$10,850	\$456
Diabetes	\$2,362	\$91
Heart Disease	\$11,249	\$153
Kidney Disease	\$1,898	\$34
Stroke	\$9,413	\$132
Violence	\$4,635	\$62
Heavy Drinking	\$14,299	\$35
Illicit Drug Use	\$34,902	\$92
Smoking	\$48,452	\$9
<b>TOTAL</b>	<b>\$175,194</b>	<b>\$1,734</b>

Source: Peterson, C., Aslam, M. V., Nolon, P. H., Bacon, S., Bellis, M. A., Mercy, J. A., & Florence, C. (2023). Economic Burden of Health Conditions Associated With Adverse Childhood Experiences Among US Adults. *Journal of the American Medical Association (JAMA) network open*, 6(12), e2346323.

<sup>p</sup> Disability-adjusted life-years (DALY) is a measure used to quantify the number of lost life-years attributed to poor health, disability, or early death. This measure is analyzed with the selected chronic health conditions among adults (≥ 20 years) to estimate a total expenditure for medical spending on ACE related conditions as well as the burden of DALYs attributed to ACEs. According to the US Department of Health and Human Services, each DALY is valued at \$540,000.

<sup>q</sup> Annual ACE medical spending among adults is comprised of estimates for total medical spending in the United States including Medicare, Medicaid, and other government programs; private insurance; or out-of-pocket costs.

TABLE 3

## Total and Per Person Lifetime Economic Burden by ACE Burden in South Carolina, 2019

### TOTAL ANNUAL SPENDING

#### By Disability-Adjusted Life-Years and Number of ACEs <sup>†</sup>

Number of ACEs	1	2-3	4	Any
South Carolina	\$14,000	\$53,000	\$108,000	\$ 175,000

#### Medical Spending by Number of ACEs <sup>§</sup>

Number of ACEs	1	2-3	4	Any
South Carolina	\$100	\$600	\$1,000	\$2,000

### PER PERSON SPENDING

#### Annual <sup>†</sup>

Number of ACEs	1	2-3	4	Any
South Carolina	\$16,000	\$65,000	\$125,000	\$68,000

#### Lifetime <sup>¶</sup>

Number of ACEs	1	2-3	4	Any
South Carolina	\$ 445,000	\$1,806,000	\$3,474,000	\$1,890,000

Source: Peterson, C., Aslam, M. V., Niolon, P. H., Bacon, S., Bellis, M. A., Mercy, J. A., & Florence, C. (2023). Economic Burden of Health Conditions Associated With Adverse Childhood Experiences Among US Adults. *Journal of the American Medical Association (JAMA)* network open, 6(12), e2346323.

The impacts of ACE exposure are often intergenerational.<sup>152</sup> Recent research has examined the implications of intergenerational ACE transmission with direct and indirect pathways of maternal transmission and behavioral health outcomes in affected children being the most commonly investigated.<sup>153, 154, 155</sup> The intergenerational transmission of ACEs from mothers to their children has been linked with an increased risk for poor outcomes in children including poor school readiness and increased expenditures on treatment. Behavioral health outcomes also manifest in affected children as depressive symptoms, anxiety, and attachment avoidance, characterized as a diminished importance of close relationships, avoidance of dependence, increased self-reliance, and hypervigilance.<sup>156, 157</sup> Addressing maternal behavioral health presents an opportunity for mothers with historical exposure to ACEs to prevent and mitigate the impact of intergenerational transmission.<sup>158</sup>

While it is important to prevent and mitigate exposure to ACEs, the promotion of positive childhood experiences (PCEs) can serve as protective factors to moderate the impact of ACEs across the lifespan.<sup>159</sup> PCEs include factors such as “being in nurturing, supportive relationships; living, developing, playing, and learning in safe, stable, protective, and fair environments; having opportunities for constructive social engagement and to develop a sense of connectedness; and learning social and emotional competencies.”<sup>160</sup> Nationally representative studies demonstrate that despite having higher rates of ACEs, rural children are more likely to report at least two positive childhood experiences PCEs.<sup>161</sup> Interventions that integrate nonmedical drivers of health with early relational health factors can serve as a protective factor for ACEs by facilitating strong family and social connections, strengthening family resilience, and contributing to positive relational experiences.

<sup>†</sup> Disability-adjusted life-years (DALY) is a measure used to quantify the number of lost life-years attributed to poor health, disability, or early death. This measure is analyzed with the selected chronic health conditions among adults (≥ 20 years) to estimate a total expenditure for medical spending on ACE related conditions as well as the burden of DALYs attributed to ACEs. According to the US Department of Health and Human Services, each DALY is valued at \$540,000.

<sup>§</sup> Annual ACE medical spending among adults is comprised of estimates for total medical spending in the United States including Medicare, Medicaid, and other government programs; private insurance; or out-of-pocket costs.

<sup>†</sup> The ACE per person total annual economic burden was the ACE total annual economic burden divided by ACE prevalence (number of adults with ACEs).\*

<sup>¶</sup> The ACE per person lifetime economic burden was the ACE per person total annual economic burden estimate applied to the number of years from age 18 to 79 years (current US life expectancy) and discounted 3% annually (a standard rate for valuing future health states) to present value.\*

# Chronic Disease

Diabetes and hypertension are chronic diseases that together affect more than one-third of South Carolinians. Both diseases can develop before or during pregnancy, and rising rates put more women and infants at risk of poor outcomes. Type 2 diabetes and hypertension outside of pregnancy often develop with no symptoms for years or decades, and, if present during pregnancy, are associated with significant danger for mothers and infants. When developed during pregnancy, diabetes and hypertension often occur during the second trimester. For pregnant women, development of these conditions before conception is classified as a pre-existing condition. Discovery of diabetes and hypertension during pregnancy is classified as gestational. Gestational diabetes can increase the risk of hypertension during and after pregnancy.<sup>162</sup>

The incidence and prevalence of Type 1 and Type 2 diabetes have been increasing in the US and South Carolina for several decades.<sup>163, 164, 165</sup> Since 2000, the incidence of Type 1 diabetes in children and teenagers has risen by almost 2% per year in the US, and almost 4% per year in the Southeast.<sup>166</sup> The reasons for the increase in Type 1 diabetes are unclear, but one result is that Type 1 diabetes complicates more pregnancies than in the past. The increase in Type 2 diabetes is attributed to changes in diet and lifestyle. Previously, Type 2 diabetes was only seen in adults 45 and older, but rising rates have made the disease more common in younger adults and teenagers.<sup>167</sup>

In South Carolina, 13.5% of adults are diagnosed with diabetes, with an estimated 3-4% more having undiagnosed diabetes.<sup>168</sup> Comparatively, about 11% of adults in the United States are diagnosed with diabetes.<sup>169</sup> Disparities in diabetes rates between white (12.1%) and Black (20.1%) adults in South Carolina also highlight elevated prenatal risks for Black mothers.<sup>170</sup> The mortality rate for pregnant or postpartum Black women is nearly four times higher than the mortality rate for pregnant or postpartum white women in South Carolina.<sup>171</sup>

The increase in both Type 1 and Type 2 diabetes rates puts more women at risk of having pre-existing diabetes. Pre-existing diabetes affects 1-2% of pregnancies in the US annually, but rates are increasing.<sup>172</sup> Roughly 35% of new US diabetes cases are women of reproductive age.<sup>173</sup> A condition seen more often than Type 1 or Type 2 diabetes is pre-diabetes. Pre-diabetes is defined as blood sugar levels that are elevated, but not to the extent necessary to diagnose diabetes. More than 33% of adults in South Carolina are estimated to have pre-diabetes, but most are unaware.<sup>174</sup> Pre-diabetes risk increases with age, but, like diabetes, it now affects more women of reproductive age. Increases in pre-diabetes rates put more women at risk of developing Type 2 diabetes.

*Roughly 35% of new US diabetes cases are women of reproductive age.<sup>173</sup>*



More common than pre-existing diabetes is gestational diabetes, which develops during pregnancy.<sup>175</sup> A gradual increase in insulin resistance is normal during later stages of pregnancy to provide a sufficient supply of glucose to the fetus, but gestational diabetes occurs when the body cannot make enough insulin to account for that resistance.<sup>176</sup> Development of gestational diabetes often happens between weeks 24 and 28 of pregnancy.<sup>177</sup>

Gestational diabetes is detected through a routine universal screening (oral glucose tolerance test) performed near the end of the second trimester.<sup>178</sup> The Centers for Disease Control and Prevention (CDC) estimates that 5-9% of pregnancies in the US are affected by gestational diabetes annually.<sup>179</sup> Some women also have an undiagnosed or undetected diabetic condition at conception, and their altered glucose levels may be discovered before the screening is administered. Gestational diabetes increases the risk of future Type 2 diabetes and gestational diabetes in subsequent pregnancies.<sup>180</sup>

Complications from diabetes are common in pregnant and non-pregnant women. Both Type 1 and Type 2 diabetes are characterized by marked hyperglycemia, which drives small blood vessel complications including eye, kidney, and nerve damage.<sup>181</sup> Both types of diabetes also accelerate large blood vessel damage, greatly increasing the risk of myocardial infarction (heart attack), stroke, and amputation.<sup>182</sup> High blood sugar also increases the risk of infections and inflammation throughout the body.<sup>183</sup> Patients taking insulin (all Type 1, many Type 2, and many gestational diabetes patients) have a consistent risk of low blood sugar that can cause confusion, accidents, and death.<sup>184</sup>

Pre-existing diabetes is associated with multiple adverse pregnancy outcomes. When compared to pregnancies without diabetes, pre-existing diabetes increases the risk of caesarean section (C-section), preeclampsia, non-cardiac congenital defects, cardiac congenital defects, pre-term delivery, stillbirth, macrosomia, neonatal hypoglycemia, neonatal respiratory distress, neonatal jaundice, and prenatal and postpartum mortality.<sup>185</sup>

Type 2 diabetes is associated with higher risk of mortality before and after birth, and Type 1 diabetes is associated with an increased rate of C-section.<sup>186</sup> Children of mothers with pre-existing diabetes can also face complications later in life, including increased risk of diabetes, obesity, cardiometabolic abnormalities, medication use, and sometimes mortality.<sup>187</sup>

Women with gestational diabetes face lesser but still significant risks of the same adverse pregnancy outcomes. Gestational diabetes rarely has symptoms, and if they do present, they are often mild. Failure to detect gestational diabetes harms women who lack prenatal care and consistent diabetes screening. Risk factors for gestational diabetes include gestational diabetes in a previous pregnancy, prior delivery of a baby over nine pounds, being overweight, age, and family history of Type 2 diabetes.<sup>188</sup>

Because gestational diabetes is generally asymptomatic, pregnant women that do not have access to testing and regulation of blood sugar levels are more likely to experience the associated adverse outcomes.<sup>189</sup> Unregulated gestational





diabetes can lead to the same issues for infants later in life as mentioned for pre-existing diabetes. The most common of these risks remain diabetes and obesity. Children of mothers with gestational diabetes also have a higher likelihood of developing nonalcoholic fatty liver disease, hypertension, osteoporosis, and renal disease.<sup>190</sup>

Hypertensive disorders affect 5-10% of pregnancies in the United States annually.<sup>191</sup> Hypertension, or high blood pressure, is defined as blood pressure reading 140 systolic mmHg over 90 diastolic (when the heart is at rest) mmHg.<sup>192</sup> Individuals with hypertension have an increased risk of myocardial infarction, heart disease, heart failure, stroke, kidney disease, vision loss, and atherosclerosis (artery plaque buildup).<sup>193</sup> Risk factors for hypertension include family history, age, diet, weight, stress, and substance misuse.<sup>194</sup>

It is estimated that 1 in 3 South Carolina adults have been told by a doctor that they have hypertension.<sup>195</sup> Like diabetes, the distribution of hypertension in South Carolina is uneven, with Black adults experiencing higher rates than white adults.<sup>196</sup>

The classification of hypertension in pregnancy is slightly different than diabetes. Pre-existing hypertension can develop before conception or before the 20th week of pregnancy. It often persists beyond six weeks postpartum. Gestational hypertension develops after the 20th week of pregnancy and resolves before six weeks postpartum.<sup>197</sup>

Both pre-existing and gestational hypertension are associated with placental disruption, intrauterine growth restriction, stillbirth, and, very commonly, preeclampsia.<sup>198</sup> Preeclampsia is diagnosed when a pregnant woman has both hypertension and proteinuria (excessive protein in urine).<sup>199</sup> A diagnosis can also be made if there are other signs of

organ failure, specifically in the liver and kidney.<sup>200</sup> Preeclampsia carries risks that are often more severe than hypertension alone, including possible brain injury, blood clotting, impaired liver and kidney function, and pulmonary edema.<sup>201</sup> Severe cases of preeclampsia can develop into eclampsia and cause seizures.<sup>202</sup>

Preeclampsia can worsen hypertension and is the leading cause of hypertensive emergencies during pregnancy. A hypertensive emergency, or severe hypertension, is defined as a blood pressure reading of 160 systolic mmHg over 110 diastolic mmHg. The severe outcomes of hypertensive emergencies include myocardial infarction, hemorrhagic stroke, and respiratory failure.<sup>203, 204</sup>

*The Medical University of South Carolina estimates that **10% of babies delivered in their facilities are affected by preeclampsia.***<sup>205</sup>

The Medical University of South Carolina, where about 2,000 babies are delivered annually in South Carolina, estimates that 10% of their deliveries are affected by preeclampsia.<sup>205</sup> Unlike diabetes during pregnancy, hypertensive disorders often come with visible symptoms. Headaches, blurry vision, nausea, trouble breathing, abdominal pain, and swelling are common in pregnant women with hypertension or preeclampsia.<sup>206</sup> Prenatal care, access to healthy foods, consistent blood pressure monitoring, and medication are ways to reduce the negative effects of hypertensive disorders during pregnancy.

Diabetes and hypertension put many South Carolina mothers at risk of adverse health outcomes. Proper prenatal care gives mothers the resources they require to safely deliver their children. Access to care prior to pregnancy also reduces the economic burden of diabetes and hypertension. It is estimated that pregnancies with diabetes and hypertension cost 25% and 80% more, respectively, than pregnancies with no complications.<sup>207</sup> Prevention and management mitigate the economic burden of care and improves outcomes for mothers and infants.<sup>208</sup>

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# Programmatic Success Stories

South Carolinians can draw inspiration from several successful programs and frameworks that have effectively improved maternal and infant health outcomes in the Palmetto State. Below are key initiatives that have demonstrated measurable success in this area.<sup>v</sup> See other programmatic efforts of note on page 92.

## Family Solutions

The South Carolina Office of Rural Health's Family Solutions is a program that administers two highly impactful programs, Healthy Start and Nurse-Family Partnership (NFP).<sup>209</sup> As a community-based program with the goal of eliminating geographic variations in infant deaths and improving the health of women and infants, Healthy Start provides guidance to parents, support between visits, and coordination of care tailored to clients' specific needs.<sup>210</sup> Family Solutions' NFP program is limited to women in Orangeburg who are experiencing their first pregnancy and are within income requirements.<sup>211</sup> NFP provides an enrolled mother with support from a registered nurse through home visits, starting during pregnancy and continuing until her child's second birthday. In 2024, Family Solutions conducted 5,603 home visits, providing direct services to 901 participants. The program observed a 15.6% increase in returning to postpartum care visits among participants and notably had zero infant and/or maternal deaths among the enrolled participants.<sup>212</sup>

## Healthy Start

Healthy Start is a federal program through the Maternal and Child Health Bureau that "works to improve health outcomes before, during, and after pregnancy."<sup>213</sup> Funding for Healthy Start is provided to communities with high rates of adverse outcomes. South Carolina is one of 37 states that provides Healthy Start services. Healthy Start initiatives are not statewide but can be found in several South Carolina counties beyond the services provided by Family Solutions. Examples of these initiatives can be found below.

- **Prisma Health's Midlands Healthy Start** operates in Richland and Sumter counties supporting pregnant women throughout their pregnancy and until their baby is 18 months old.<sup>214</sup> Education classes offered by Midlands Healthy Start cover childbirth, breastfeeding, and pregnancy. Other services and/or assistance offered includes case management, access to social workers, assistance finding emergency services, support groups, and a fatherhood initiative.
- **Prisma Health's Upstate Healthy Start** was awarded as an enhanced Healthy Start site in 2023.(citation) This site serves Lexington, Greenville, Greenwood, Anderson, Laurens, and Cherokee counties. Mirroring the services offered through Prisma Health's Midlands Healthy Start, the mission of their program is to improve infant and maternal mortality and morbidity as well as other health disparities. Both of Prisma Health's Healthy Start initiatives serve pregnant women, postpartum women, infants, fathers, family, and community providing case management and care coordination, group-based health education, and parenting education.
- **Pee Dee Healthy Start** provides services in Chesterfield, Darlington, Dillon, Florence, Marion, Marlboro, and Williamsburg counties.<sup>216</sup> Pee Dee Healthy Start focuses on eliminating disparities in prenatal and postpartum health and accomplishes this through supporting women of childbearing age, pregnant women, and mothers and fathers.

## Hello Family Pay for Success

The Hello Family Pay for Success (PFS) project in Spartanburg utilizes evidence-based services for pregnant women and their children up to the child's entry to kindergarten.<sup>217</sup> This project includes three programs: BirthMatters, Family Connects, and Positive Parenting Program (Triple P). PFS involves local government, service providers, evaluators, and others to improve health outcomes for mothers and infants. Recent data from PFS's first year indicate that supporting this model in rural South Carolina could improve maternal and infant health outcomes.

<sup>v</sup> This is not an exhaustive list of South Carolina maternal and infant health efforts.

- **BirthMatters** utilized South Carolina vital statistics data when targeting four maternal and infant health outcomes: C-sections, neonatal intensive care unit (NICU) admissions, low birthweight, and breastfeeding initiation.<sup>218</sup> This program supported 131 eligible families, helping them avoid two cesarean deliveries, three NICU admissions, and six cases of low birthweight while also initiating breastfeeding for eight infants.<sup>219</sup>

- **Family Connects** offers a nurse-based approach to newborn home-visiting, enabling families with infants up to six months old to receive support from a postpartum nurse through home visits.<sup>220</sup> The targeted outcome for this program was to reduce emergency medical care rates. This program assisted 46 families in avoiding infant emergency medical care visits out of the 460 babies born in Spartanburg in 2022.<sup>221</sup>

- **Triple P**, a well-known evidence-based parenting support program offered in over 30 countries, offers five intervention levels to address various needs.<sup>222</sup> Formation of the parenting interventions for the Triple P system “includes research related to the efficacy, effectiveness and dissemination of intervention programs, epidemiological studies, correlational studies, service-based research, evaluations of professional training, large-scale population trials, and meta-analyses” and more.<sup>223</sup> In South Carolina, Spartanburg’s Hope Center for Children provides Triple P for parents with children 0-12 years of age; the goal of the program is to promote child development and reduce child maltreatment.<sup>224</sup> Aggregate data on substantiated cases of maltreatment was utilized from South Carolina records for the Hello Family Pay for Success analysis; however, it has been suggested that long term evaluation is recommended for further analysis of maltreatment. Furthermore, Triple P’s international website highlights a South Carolina population trial of the program as an effort that “had a dramatic impact on child abuse and foster care rates,” drawing attention from other Triple P sites and commentators across the country.<sup>225</sup>



## iCare

The South Carolina Center for Rural and Primary Healthcare operates the iCARE program, which aims to expand access to services in rural areas, with a focus on behavioral and physical maternity health care.<sup>226</sup> Key partner organizations provide services under iCARE:

- **Addressing Maternal and Infant Morbidity and Mortality:** Beaufort Jasper Hampton Comprehensive Health Services is working to provide and coordinate wraparound services for moms and babies by establishing prenatal and postpartum services and hiring OB/GYNs and Community Health Workers (CHWs).<sup>227</sup>
- **BabyCoach: Nurses Supporting Rural South Carolina Families Discharging from NICU or Special Care:** To decrease preventable hospital stays, infant mortality, and deaths due to preventable injury, BabyCoach provides tailored home visits, screenings, and local referral assistance to families of infants discharged from NICU or Special Care.<sup>228</sup>
- **Emmanuel Family Practice:** A rural Saluda County Family Medicine practice provides comprehensive prenatal care, delivery services, and postpartum care for underserved populations.<sup>229</sup>

- **High-Risk Obstetric Services in Oconee County:** The Prisma Health Department of Obstetrics and Gynecology and Oconee Memorial Hospital are establishing a dedicated, full-time, in-person Maternal-Fetal Medicine service line based in Seneca to address critical maternal health disparities in rural Upstate South Carolina.<sup>230</sup>
- **MUSC Orangeburg:** To decrease maternal and infant mortality in Orangeburg County, full-spectrum obstetric care and newborn care is provided by Family Medicine physicians in a single medical home model.<sup>231</sup>
- **Prisma Health Pediatric Subspecialties:** Utilizing satellite clinics in 14 rural communities, weekly subspecialty clinics are offered including, but not limited to, pediatric cardiology, endocrinology, and hematology.<sup>232</sup>
- **Self-Regional Healthcare – Family Medicine-Centered Maternity Care in Edgefield:** To provide quality prenatal care, the Self Regional Healthcare Family Medicine Residency Program established a prenatal clinic at the Edgefield Medical Clinic; the clinic offers family medicine physician-led prenatal care including ultrasounds, non-stress testing, high-risk pregnancy consultations, and postpartum follow-up care.<sup>233</sup>

Current outcome data shows the iCARE delivery system provided in home clinical services to over 8,600 patients, served 1,338 patients across nine pediatric subspecialties, and provided access to mental health appointments for 438 patients.<sup>234</sup>

## Listening to Women & Pregnant & Postpartum People

In partnership with patients and providers, MUSC developed and evaluated a maternal-infant health program called Listening to Women & Pregnant & Postpartum People (LTWP). The program was tested in a randomized controlled trial comparing rates of screening, brief intervention, and referral to treatment for maternal mental health conditions.<sup>235, 236</sup> Results of participants in LTWP compared to patients receiving “usual care” show that LTWP participants 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, and 5.7 times more likely to attend treatment compared to their “usual care” counterparts.<sup>237, 238, w, x</sup>

Results were consistent in Black Non-Hispanic, rural, and partially rural populations.<sup>239</sup> The program has been further developed to identify early warning signs of postpartum complications and access to preventative care throughout the postpartum year (HEAR 4 Mamas). It also addresses maternal and infant health by providing the opportunity for a technology-enabled solution to home visits while supporting increased touchpoints for families to improve outcomes for mothers and babies, including the identification of “barriers to postpartum success, milestones for infants, and overall health of families.”<sup>240</sup>

## Management of Maternal Diabetes

Diabetes Free South Carolina (DFSC) funds two multidisciplinary prenatal programs under the Management of Maternal Diabetes (MOMs) initiative, which provides diabetic pregnant women with innovative, integrated, and convenient care by utilizing new technology to enhance the quality of care.<sup>241</sup> The two DFSC MOMs programs are operated through Prisma Health: one at Prisma Upstate in Greenville and another at Prisma Midlands in partnership with Carolina Diabetes and Kidney Center, serving Columbia and Sumter.<sup>242</sup> Each MOMs program provides team-based care utilizing maternal-fetal medicine specialists, endocrinologists, nutritionists, diabetes educators, patient navigators, retinal screening, biostatistical and telemedicine specialists, and behavioral/psychology specialists.<sup>243</sup> To ensure that rural and under-resourced communities have access to MOMs, telemedicine services are available. Over the past four years, MOMs has served more than 2,500 pregnant women and, as presented at the 2025 American Diabetes Association Scientific Sessions, has been associated with improved maternal and infant outcomes, including reduced C-sections, premature deliveries, neonatal intensive care unit (NICU) admissions, and fewer cases of small- and large-for-gestational-age infants, infant hypoglycemia, and low APGAR scores.<sup>244, 245</sup>

<sup>w</sup> “Usual care” patients receive in-person screening, brief interventions through in-person OB/GYN or CNM, referral to treatment through telemedicine, office, or home follow up, and communication with the OB/Peds team for screening information, referral, and treatment progress.

<sup>x</sup> LTWP participants receive text message-based screening, brief interventions by social workers, referral to treatment through telemedicine, office, or home follow up, and communicate with the OB/Peds team for screening information, referral, and treatment progress.



## Mom's IMPACTT

IMProving Access to Maternal Mental Health and Substance Use Disorder Care Through Telemedicine and Tele-Mentoring (Mom's IMPACTT), is a program through MUSC designed to assist providers in building capacity to recognize, assess, treat, and/or refer patients with mental health conditions and/or SUDs.<sup>246</sup> Mom's IMPACTT serves patients who are pregnant or within 12 months postpartum with a mental health condition and/or SUD. This initiative provides real-time psychiatric consultation for providers, mental health and SUD trainings for physicians, advanced practice providers, community health workers, and maternal child health organizations, and brief phone assessments by care coordinators.<sup>247, 248</sup> From May 2022 to August 2024, Mom's IMPACTT provided mental health/SUD trainings for 1,305 front-line providers, 87 provider-to-provider consultations, and access to care for 2,858 pregnant and postpartum women from 100% of South Carolina counties.<sup>249</sup> Of those 2,858 pregnant and postpartum women, 53.3% were patient self-referrals and 46.7% were provider referrals; 31.6% were referred to community treatment and 68.4% received treatment in MUSC's outpatient clinics.<sup>250</sup>

## PASOs

In 2004, a gap analysis was conducted on maternal and child health needs of the Latino population in South Carolina.<sup>251</sup> Due to findings that showed limited access and information about health resources, PASOs was founded in 2005.<sup>252</sup> PASOs provides support to Latino communities through education, leadership development, and advocacy.<sup>253</sup> Three pillars guide the work of PASOs in South Carolina: 1) Community Health Worker Model, 2) capacity building and systems workforce development, 3) community health worker training and workforce development.<sup>254</sup> Two community-based programs, PASOs Health Connections and PASOs Connections for Child Development, are offered in 11 South Carolina counties and reach more South Carolina counties through their work.<sup>255, 256, y</sup>

- PASOs Health Connections utilizes Community Health Workers (CHWs) to connect all members of Latino households with health and community settings.<sup>257</sup> In 2023, this community-based program connected over 7,000 adults and children to resources to help them thrive, facilitated WIC benefits for 4,000 individuals, supported 7,100 community members in accessing care, and successfully served 3,537 adults by addressing nonmedical health drivers.<sup>258</sup>
- PASOs Connections for Child Development utilizes CHWs to screen for development of children in family homes, clinics, and libraries.<sup>259</sup> Through this screening, children with developmental needs are referred to relevant resources, therapies, and specialties. In 2023, 794 children were screened for development, 160 children were impacted by connections made through the program, and 711 parents received education to support their children's development.<sup>260</sup>
- Through their Community Health Worker Model, PASOs conducted over 8,400 closed-loop interventions with 4,517 community members in 2024.<sup>261</sup>

## Postpartum Support International

Postpartum Support International (PSI) is "the world's leading non-profit organization dedicated to helping those suffering from perinatal mood disorders, the most common complication of childbirth."<sup>262</sup> South Carolina's PSI chapter (PSI-SC) has a mission to "increase awareness, education, prevention, and treatment of perinatal mental health issues affecting individuals, their families, and support systems in all areas of South Carolina."<sup>263</sup>

PSI has several support programs and resources; some programs and resources are specific to moms, partners, and families, while others are for professionals.<sup>264</sup> Programs and resources for moms, partners, and families include Find a Trained Provider, Call or Text our HelpLine [1-800-944-4773(4PPD)], National Maternal Mental Health Hotline, Find a PSI Volunteer, and PSI Help Resources.<sup>265</sup> Programs and resources for Professionals include PSI Provider Directory, Perinatal Psychiatric Consult Line, Perinatal Mental Health Certification (PMH-C), and Training Sessions.<sup>266</sup>

<sup>y</sup> PASOs Health Connections and PASOs Connections for Child Development are offered in Beaufort, Berkeley, Charleston, Dorchester, Greenwood, Horry, Jasper, Lexington, Newberry, Richland, and Saluda counties. In 2024, PASOs impact extended to 27 counties in South Carolina.

## ReBIRTHed: Mothers Serving Mothers in Recovery and Birth

ReBIRTHed is a pilot program that leverages and expands the preexisting Mom's IMPACTT program by providing immediate access to perinatal opioid use disorder treatment, incorporating peer recovery doulas, offering a centralized location for services, ongoing monitoring of mother/caregiver-child dyad, and expanding outreach to high-risk populations.<sup>267</sup> Within the first six months of operating this pilot program, data show that 52 pregnant and postpartum women with PSUD were served through ReBIRTHed. Of the participants, 100% resided in fully medically underserved counties, 80% resided in fully rural counties, and 84% were insured by Medicaid.<sup>268</sup>

## South Carolina Rural Provider Incentive Program Overview

The South Carolina Area Health Education Consortium (AHEC) operates the South Carolina Rural Provider Incentive Program. This program "provides financial incentives for primary care physicians and advanced practice professionals who commit to practice in a rural or underserved area of South Carolina in an outpatient setting for a period of four years."<sup>269</sup> All clinicians who receive financial assistance through the program must be board certified and licensed by the state of South Carolina. As of November 2024, AHEC had funded more than 500 primary care providers in rural South Carolina; since 1990, 89% of physicians who received financial incentives through AHEC's program are actively practicing in South Carolina.<sup>270</sup>

## Supplemental Nutrition Assistance Program

Supplemental Nutrition Assistance Program (SNAP) is a national program that provides low-income families with food benefits to supplement their grocery budget to make nutritious food affordable.<sup>271</sup> According to research, in a typical month of 2021, SNAP assisted over 41 million low-income Americans in purchasing nutritious food.<sup>272</sup> Food insecurity has been linked to poor health outcomes across age groups:

- In children, these poor health outcomes include "increased risk of poor health, poorer diet quality, development of chronic health conditions including asthma and anemia, cognitive and behavioral problems, and anxiety and depression."<sup>273</sup>
- In working-age adults, these poor health outcomes include "poor general and mental health, poorer diet quality, and chronic health conditions including hypertension, coronary heart disease, diabetes, and kidney disease."<sup>274</sup>

As it specifically relates to moms and babies, preemptive access to SNAP can improve birth outcomes including decreased rates of low-weight-babies when mothers have access to SNAP during pregnancy.<sup>275</sup> Based on this research, educating moms and babies about SNAP eligibility and utilization could improve health outcomes among this population.



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# Policy Success Stories

Many southern states have implemented policy measures to improve maternal and infant health outcomes. Policy efforts have addressed workforce challenges by expanding practice authority, revising reimbursement policies for allied health professionals, and creating additional financial incentives for physicians providing care in rural communities. Additionally, some states are addressing nonmedical drivers of health through legislation and 1115 waivers to improve access to care.

## Practice Authority

“Full practice authority” refers to the ability of various clinical roles, including Certified Nurse Midwives (CNMs), to practice autonomously without the need for physician oversight or a collaborative agreement with a physician.<sup>276</sup> Thirty-one states have eliminated the requirement for a supervising physician, allowing CNMs to practice autonomously.<sup>277</sup> South Carolina does not grant full practice authority to licensed Advanced Practice Registered Nurses (APRNs). As a result, Certified Nurse Midwives, who are classified as APRNs, are required to have a collaborative agreement with a licensed physician in order to practice.<sup>278</sup> Some Southern states, including Arkansas, North Carolina, and Florida, have passed legislation to address this barrier.

The Arkansas State Legislature passed Act 607 during the 2021 legislative session, granting CNMs full practice authority.<sup>279</sup> This legislation recognizes the critical role CNMs play in providing comprehensive prenatal and postnatal care. According to the Act, “Certified nurse midwives are often underutilized in helping provide maternity, prenatal, postpartum, intrapartum, and reproductive health care services in this state” and the integration of CNMs into the maternal health care continuum can help improve both the access to and quality of care.<sup>280</sup> The legislation explicitly states that CNMs are only required to have a collaborative practice agreement for prescribing Schedule II medications or for delivering babies outside of accredited facilities.<sup>281</sup> For births outside of an accredited facility, the CNM must identify a licensed physician or facility, or both, with whom arrangements have been made for referral and consultation in case of a medical complication.<sup>282</sup>

During the 2023 legislative session, the North Carolina General Assembly passed Senate Bill 20, which removes the requirement for physician supervision of CNMs with over 24 months and 4,000 hours of experience.<sup>283</sup> CNMs who do not meet these requirements will still be required to obtain a collaborative agreement with a physician until the criteria are met. North Carolina CNMs have agreed that this legislation will allow CNMs to open their own practices, including birthing centers, in rural communities without the presence of the previous restrictions.<sup>284</sup> CNMs in North Carolina are qualified to manage vaginal births, including overseeing the progress of labor and delivery. They are trained to recognize any deviations from normal labor and birth and can identify appropriate interventions.<sup>285</sup>

In 2024, Florida further expanded CNM practice by passing Senate Bill 7016, granting those who hold an Autonomous APRN license full practice authority.<sup>286</sup> In the absence of a collaborative agreement, Florida updated their requirements for CNMs to maintain a written policy for the transfer of patients needing a higher acuity of care or emergency service if they are practicing autonomously during labor and delivery.<sup>287</sup> This policy mandates the use of an emergency plan-of-care form, which must be signed by the patient prior to admission to birthing care.<sup>288</sup> The form is required to include the name and address of the closest hospital that provides maternity and newborn services, reasons for which transfer of care would be necessary, and emergency medical services that would be used for patient transport if needed.<sup>289</sup> To qualify for an Autonomous APRN license in Florida, CNMs must complete a minimum of 3,000 clinical practice hours within five years immediately preceding the registration request while practicing as an APRN under the supervision of a physician with an active license.<sup>290</sup>

## Strengthening the Workforce

In addition to expanding the role of CNMs, Florida has also taken steps to support the broader allied health care workforce, including doulas, to improve maternal and infant health outcomes. In 2019, Florida began offering Medicaid coverage for doula care as an optional expanded benefit within its Medicaid managed care program, meaning only beneficiaries enrolled in Managed Care Organizations (MCOs) have access to these services. MCOs are responsible for defining the scope of doula coverage.<sup>291</sup> Several Florida MCOs contract with The Doula Network (TDN), an organization that assists doulas with credentialing. Under these agreements, TDN-doulas provide five visits per pregnancy and labor and birth support.<sup>292</sup> A number of MCOs cover unlimited doula visits for enrollees with the appropriate prior authorization. Coverage structures may vary for independent doulas contracting directly with MCOs. Total base payments for doula care range from \$850 to \$1,112.<sup>293</sup>

In 2023, Tennessee passed legislation that requires the Tennessee Department of Health to create a five-member Doula Services Advisory Committee to guide the department in its efforts to establish core competencies and standards for doula services provided in their state.<sup>294, z</sup>



According to the legislation, the advisory committee must include the following members:

1. The commissioner of health, or the commissioner's designee with experience in maternal health or Medicaid policy;
2. The director of TennCare, Tennessee's Medicaid program, or the director's designee;
3. Two community-based doulas, to be appointed by the commissioner of health or the commissioner's designee, who have documented experience providing services to female Medicaid recipients in areas in Tennessee with high rates of maternal and infant mortality; and
4. One doula, to be appointed by the commissioner of health or the commissioner's designee, who has documented experience providing services to Medicaid recipients.<sup>295</sup>

The advisory committee was also tasked with recommending reimbursement rates and fee schedules for TennCare.<sup>296</sup> According to the legislation, doula services are defined as services that provide "continuous emotional and physical support throughout labor and birth, and intermittently during the prenatal and postpartum periods."<sup>297</sup> The advisory committee is set to dissolve on July 1, 2026.

As states continue to experience challenges in recruiting and retaining a sufficient health care workforce in rural communities, several strategies are being implemented to help ensure physicians remain in under-resourced communities.

To enhance access to care and support workforce retention, North Carolina Medicaid increased the Medicaid reimbursement rate for Maternal Bundled Payments for pregnancy care to 71% of the Medicare rate. This rate adjustment, as required by Senate Bill 20, increases reimbursement payments for providers who accept Medicaid patients.<sup>298</sup>

Georgia has implemented a tax credit program to attract physicians to rural counties. Under House Bill 82, signed into law in 2024, rural physicians are eligible for a tax credit of up to \$5,000 annually, up to five years, for each year a physician practices in a rural community.<sup>299</sup> Physicians practicing and residing in rural counties or contiguous to a rural county are eligible for the tax credit.

<sup>z</sup> Doula Services Advisory Committee: The Doula Services Advisory Committee was established in 2023 by the state of Tennessee to create core competencies and standards for doula services, propose multiple options for a Medicaid reimbursement plan, propose incentive-based programs, examine outcomes, and produce a report to the legislature. Source: Tennessee Department of Health. (n.d.). Doula services advisory committee. Tennessee Department of Health. <https://www.tn.gov/health/health-program-areas/fhw/get-involved-with-fhw/taskforces-and-committees/doula-services.html#:~:text=The%20Doula%20Services%20Advisory%20Committee,programs%20such%20as%20fee%20waivers>



## Nonmedical Drivers

Nonmedical drivers of health have been identified as a barrier to access to care, and according to North Carolina's Department of Health and Human Services (NC DHHS), 80% of a person's health is determined by social and environmental factors.<sup>300</sup> In 2019, NC DHHS received approval for their proposed 1115 demonstration, North Carolina Medicaid Reform Demonstration, to execute strategic interventions and investments to improve access to food, housing, transportation, and interpersonal safety.<sup>301</sup> These investments are expected to provide cost savings and improve health care system efficiency.

Through this 1115 waiver, North Carolina launched Healthy Opportunities Pilots (HOP), the nation's first comprehensive program to test and evaluate the impact of providing nonmedical interventions to high-needs Medicaid enrollees.<sup>302</sup> The waiver allowed the state's Medicaid program to transition from a fee-for-service model to a managed care program.<sup>303</sup> North Carolina selected three regions to operate as the Healthy Opportunities Network leads: two in Eastern North Carolina and one in Western North Carolina. Providers participating in the pilot delivering health and social services were directed to address nonmedical drivers of health that had the potential to adversely impact the health of communities.<sup>304</sup>

*80% of a person's health is determined by social and environmental factors.<sup>300</sup>*

Originally funded for five years by the Centers for Medicare and Medicaid Services (CMS), the funding was extended in October 2023 for five additional years to ensure more qualifying individuals could benefit.<sup>305</sup> As of July 2024, HOP covers 29 evidence-based interventions, including Housing Navigation, Inspection for Housing Safety and Quality, Short-Term Post Hospitalization Housing, Evidence-Based Group Nutrition Classes, Healthy Food Boxes, and Diabetes Prevention Programming.<sup>306</sup>

To qualify for pilot services, expecting mothers must meet at least one needs-based criterion and one risk factor.<sup>307</sup> Need-based criteria include, but are not limited to, a multifetal pregnancy, chronic conditions including hypertension and/or a history of poor birth outcomes including preterm birth, low birth weight, fetal death or neonatal death.<sup>308</sup> Risk factors that contribute to eligibility include homelessness or housing insecurity, food insecurity, transportation insecurity, and risk of witnessing or experiencing interpersonal violence.<sup>309</sup>

In 2023, Texas legislators passed House Bill 1575, acknowledging the impact of nonmedical factors on health outcomes. The bill authorized Medicaid to provide case management services for nonmedical needs for pregnant women and their children who are enrolled in Medicaid.<sup>310</sup> This legislation directed the Texas Health and Human Services Commission to implement a standardized screening designed to identify nonmedical health-related needs of pregnant women who are enrolled in the Medicaid program.<sup>311</sup> Additionally, certified CHWs and doulas were designated as personnel who can provide case management services for participants in the state's children and pregnant women program. Medicaid MCOs are now required to conduct an initial health needs and nonmedical health related needs screening of each pregnant Medicaid recipient, determining whether they are experiencing a high-risk pregnancy and eligible for service coordination.<sup>312</sup>

## Telehealth

States are continually exploring innovative ways to leverage telehealth to improve health outcomes. In 2021, Florida policymakers enacted legislation that directed Florida's Department of Health to create a Telehealth Maternity Care Pilot Program in Duval and Orange Counties to improve maternal health outcomes in historically low-access groups.<sup>313</sup> The legislation outlined the pilot program's objectives, which included the following:



"a) Expanding the use of technology-enabled collaborative learning and capacity building models to improve maternal health outcomes for the following:

1. Ethnic and minority populations
2. Health Professional Shortage Areas
3. Areas with significant racial and ethnic disparities in maternal health outcomes and high rates of adverse maternal health outcomes
4. Medically underserved populations
5. Indigenous populations

b) Providing for the adoption and use of telehealth services that allow for screening and treatment of common pregnancy-related complications including, but not limited to, anxiety, depression, SUDs, hemorrhage, infection, amniotic fluid embolism, thrombotic pulmonary or other embolism, hypertensive disorders relating to pregnancy, diabetes, cerebrovascular accidents, cardiomyopathy, and other cardiovascular conditions."<sup>314</sup>

The legislation directed the pilot programs to use telehealth or coordinate with prenatal home visiting programs to provide referrals to Healthy Start's coordinated intake and referral program. Additionally, the pilot program was directed to coordinate referrals to services and education addressing nonmedical drivers of health.<sup>315</sup> The pilot program instructed participating health care practitioners and other professionals to receive training to screen for nonmedical factors impacting health during prenatal and postpartum periods.<sup>316</sup> Funding for the program came from the state and existing federal resources.<sup>317</sup>

In 2024, the Florida legislature expanded the program statewide. The updated legislation clarified that the program was no longer limited to county health departments and enabled the Florida Healthy Start program to refer and receive referrals for eligible clients.<sup>318</sup>

# Recommendations

## CARE DELIVERY

### RECOMMENDATION:

### *Care Delivery #1*

**Ensure all women in South Carolina's rural communities have access to affordable and convenient prenatal and postpartum care by 1) providing mobile care to moms and infants in rural South Carolina, 2) leveraging advances in telehealth through mass adoption of remote monitoring equipment, and 3) expanding and supporting successful group prenatal education and care models.**

The primary goal of this recommendation is to ensure that all women have access to prenatal and postpartum care within 30 miles of their home or place of work.<sup>aa</sup> The taskforce extensively discussed the need for women to be more geographically proximate to their care.

### Mobile Maternity Care Services

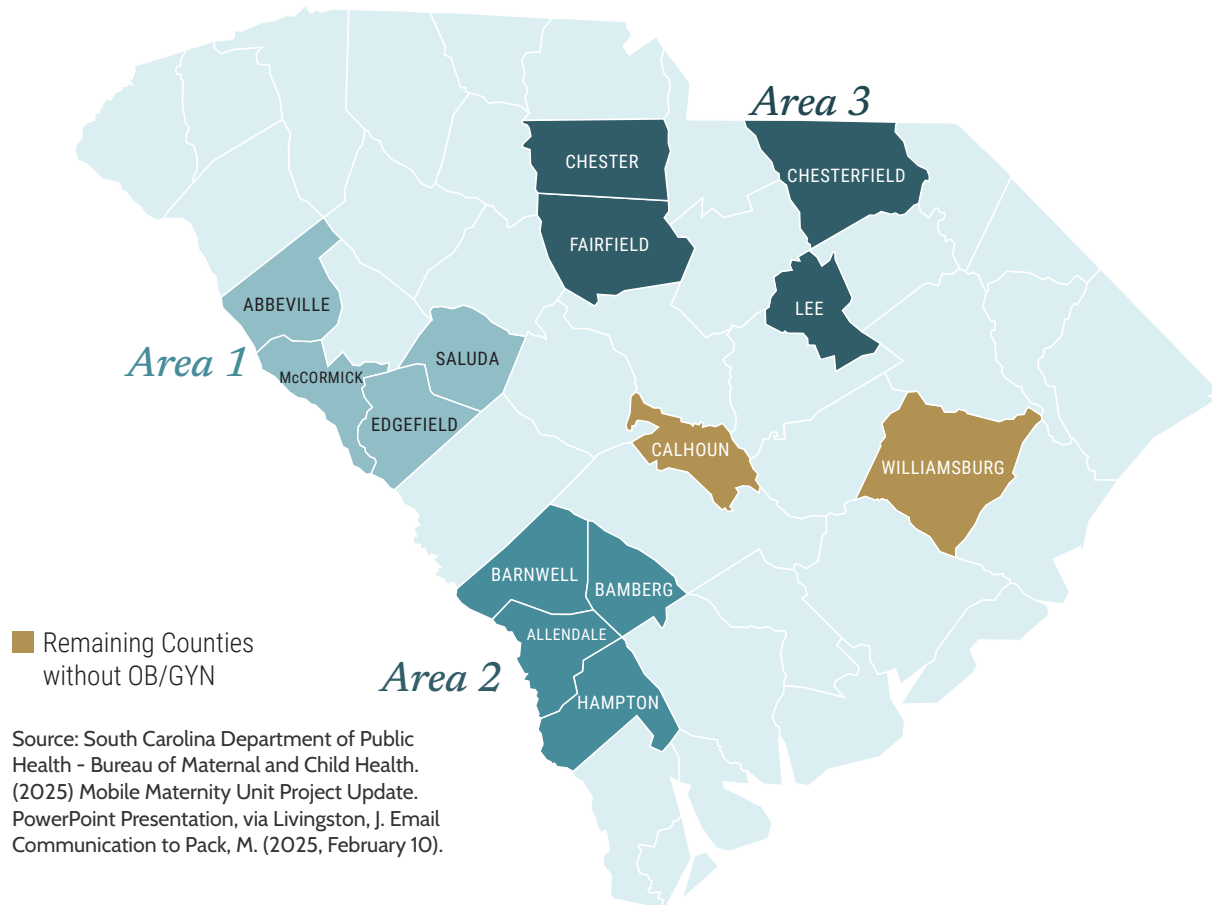
#### *Context*

In 2024, the South Carolina Department of Public Health (DPH) was partially funded to develop a maternal mobile care unit.<sup>319</sup> In the Executive Budget for FY25-26, Governor McMaster recommended the allocation of \$1.6 million in non-recurring and \$625,000 in recurring funds for the Healthy Moms, Healthy Babies program and its mobile maternity care vehicle, to be implemented by DPH.<sup>320</sup> The primary objective of the mobile maternity care unit is to facilitate enhanced access to maternal health care before, during, and after pregnancy.<sup>321, 322, 323</sup> This mobile unit aims to increase access to maternity care in rural and/or underserved areas across the state and will be the first of its kind.<sup>324, 325</sup>

<sup>aa</sup> Mobile units alone cannot accomplish this task.



## Map of Mobile Unit Areas of Need



The following steps are outlined in DPH's request for additional recurring funds.<sup>326, 327</sup>

- Make a 38-foot mobile maternity care clinic available in rural and/or underserved counties identified from a landscape analysis conducted in 2024. The three multi-county areas identified to provide services utilizing the mobile clinic, selected based on the population of women of childbearing age, access to obstetric services, prenatal care adequacy measures, and negative birth outcome measures are **Area 1** (Abbeville, McCormick, Edgefield, and Saluda Counties), **Area 2** (Barnwell, Bamberg, Allendale, and Hampton Counties), and **Area 3** (Chester, Chesterfield, Fairfield, and Lee Counties).<sup>328, 329, bb</sup>
- The mobile maternity care clinic will be equipped with a high-range ultrasound machine and a fetal heart monitor. Planned services include:
  - Pre-conception, pregnancy, postpartum, and newborn interventions, as well as primary health care interventions;
  - Maternal mental health and SUD screenings and referrals;
  - Referrals for high-risk patients or those with fetal abnormalities.
- DPH will invest non-recurring funds to build the unit and recurring funds for the operational costs of the unit.
- A contracted vendor(s) will be responsible for building the unit as well as operating the unit and providing all clinical services. The contracted vendor will be responsible for staffing a driver as well as a care team holding all appropriate licenses and certifications. Additionally, the vendor will ensure the interoperability of electronic health care records with surrounding hospitals, coordinate patient visits, establish formal partnerships and referral processes for high-risk patients, employ necessary clinical and non-clinical staff, and maintain the mobile health vehicle.
- In seeking a clinical partner, DPH released a request for information (RFI) on January 21, 2025, to solicit details on existing mobile health unit efforts and to request information regarding organization overview; mobile maternity care unit description; maintenance and upkeep; security measures; staffing and operations; service delivery and care coordination; location selection and insurance; patient engagement and promotion; budget and sustainability; evaluation and impact; and implementation through the end of March.
- Through the end of Fall 2025, DPH will review the responses to the RFI, use the information gleaned from those responses to develop the request for proposal (RFP), and publish the RFP.

<sup>bb</sup> According to the South Carolina Department of Public Health, if funded, it plans to cover one of the three identified areas with its mobile unit and will then collaborate with other mobile units and/or expand its program to cover the remaining two areas. The first area targeted will depend on selected measures, which organization receives the mobile unit funding, and which areas are already covered by maternity mobile unit(s).



DPH will work with the contracted partner to develop a robust evaluation plan to track service delivery and patient outcome measures. Together, these partners will work to analyze and disseminate findings for continuous quality improvement and to better position partners across the state for scaling and replication of the model in other communities.

Mobile maternity units in other states have had success in facilitating enhanced access to maternal and infant health care services, specifically the Mom & Baby Mobile Health Centers® operated by March of Dimes. In 2023, the three mobile units operated by March of Dimes in Washington, D.C.; Columbus, Ohio; and Tucson, Arizona, facilitated:<sup>330</sup>

<b>4,393</b>	<b>2,542</b>	<b>346</b>	<b>383</b>	<b>135</b>
Total Visits	Prenatal Visits	Postpartum Visits	Well-Woman Visits	Well-Child Visits

Of the total 4,393 visits across 23 locations, 1,140 patients were served, and of those patients, 68% were uninsured. There was a 33% increase in the total number of visits and a 48% increase in the number of patients served from 2021 to 2023.<sup>331</sup> March of Dimes currently operates six mobile units located in Columbus, Ohio; New York, New York; Phoenix, Arizona; Tucson, Arizona; Washington, D.C.; and Houston, Texas, with plans to add three more in 2025 in Southeast Ohio; Cleveland, Ohio; and Alabama.<sup>332</sup>

The DPH mobile maternity care unit will be required to offer services a minimum of three to four days a week and have the capacity to serve 52 patients per week or 208 patients per month.<sup>333</sup> Additionally, the mobile maternity care unit will promote and facilitate access to local, community-based resources that holistically address the nonmedical drivers of health for women in their service area.<sup>334</sup>

The South Carolina Department of Health and Human Services (SCDHHS) has established travel guidelines relative to the establishment of managed care organization (MCO) provider networks.<sup>335</sup> SCDHHS defines a primary care provider as the provider who serves as the entry point into the health care system for the enrollee and is responsible for providing primary care, coordinating/monitoring referrals to specialist care, authorizing hospital services, and maintaining continuity of care.<sup>336</sup> The primary care provider designation encompasses general practitioners, family medicine physicians, internal medicine physicians, obstetricians/gynecologists, and pediatricians.<sup>337</sup> Current guidelines indicate that for providers acting in the capacity of a primary care physician, 90% of the managed care eligible population in the county must have access to at least one primary care provider within 30 miles and within 45 minutes or less driving time to be eligible for reimbursement.<sup>338</sup> For providers acting as specialists, 90% of the managed care eligible population in the county must have access to at least one specialty care provider within 50 miles and within 75 minutes or less driving time to be eligible for reimbursement.<sup>339</sup> For hospitals, 90% of the managed care eligible population in the county must have access to at least one hospital within 50 miles and within 75 minutes or less driving time to be eligible for reimbursement.<sup>340</sup>

*Timeline<sup>cc</sup>*

<b>Year 1</b>	The first DPH mobile maternity care unit is built for future deployment in the designated service area.
<b>Year 2</b>	The first DPH mobile maternity care unit is deployed.
<b>Year 3</b>	Leverage findings from continued monitoring and evaluation of direct service provision, and pursue potential model replication if service provision is successful and there is a demand for services.
<b>Years 1-5</b>	Continued monitoring and evaluation of mobile maternity care unit services, outcomes, and community impact to determine if additional mobile maternity care units should be utilized.

<sup>cc</sup> The timelines for each recommendation are suggested as a starting place for planning purposes.

## Mass Adoption of Remote Monitoring Equipment (RME)

### Context

Remote patient monitoring (RPM) presents significant potential to improve access to maternal and infant care in the context of accessibility, affordability, availability, accommodation, and acceptability domains, particularly in rural and underserved areas.<sup>341</sup> Several studies have reported that telemonitoring across the pregnancy continuum has been associated with reductions in overall health care costs, low neonatal birth weight, and NICU admissions.<sup>342</sup> Despite the numerous positive outcomes documented during the pandemic, RME remains underutilized in these areas nationally due to restricted broadband access, digital literacy gaps, barriers to integrating with existing health care delivery models, health care provider shortages, insufficient reimbursement mechanisms, and both provider and patient hesitancy.<sup>343</sup> South Carolina is the only state that has better or more available broadband in rural areas than in urban areas, positioning it well for RPM implementation and scalability in communities with limited or no access to maternal care services.<sup>344</sup>

### Action Steps

- Assess the existing infrastructure for RME uptake from both provider and patient accessibility perspectives.
- Identify and establish sustainable reimbursement models for RMEs and the provision of RME services provided by nonmedical providers. For example, a community health worker may provide information and resources about the utilization of telehealth technology and RME to monitor and manage chronic health conditions.
- Develop standardized, condition-specific RPM protocols.
- Assess the landscape of telehealth hubs and services offered to prenatal and postpartum moms in rural areas of South Carolina. Explore whether broadband at schools or other community gathering places is available to prenatal and postpartum women who do not have internet access.
- Create a public reference guide that shows providers by county and whether they offer telehealth and remote monitoring services.
- Identify and contract with hubs, such as local libraries, that are already fully equipped to offer RME.
- Connect with digital literacy training programs to offer support to rural users of RME.
- Identify and contract with RME manufacturers.
- Establish a “pyramid of care” defined as the referral to additional providers as needed based on the complexity of patient condition(s).
- Identify funding to develop a pilot for remote postpartum hypertension and diabetes management and care.

### Timeline

#### Year 1

Work with community partners, rural stakeholders, broadband experts, and health care providers to conduct a robust landscape analysis of the RME infrastructure for maternity care in rural South Carolina. Enhance monitoring, evaluation, and sharing of data on RME-based service provision and patient outcomes for existing programs currently utilizing RME for maternity care. Leverage findings from continued monitoring and evaluation of direct service provision to pursue potential model replication for a remote postpartum hypertension management pilot program.

#### Year 2

Work with clinical providers, community-based partners, and allied health professionals to establish a standardized “pyramid of care” and referral network to meet the needs of patients based on case complexity.

#### Year 3

Launch pilot program(s) for remote postpartum hypertension and diabetes management and care in rural, underserved communities across the state.

#### Year 5

Finalize the evaluation and community impact assessment of initial pilot program(s).

#### Years 1-10

Continued monitoring and evaluation of programs providing RME-based services related to patient outcomes and community impact.

## Expand Successful Group Prenatal Education and Care Models

### Context

The CenteringPregnancy model (Centering) is a patient-centered strategy for not only improving access to and quality of prenatal care but also reducing the costs associated with adverse birth outcomes.<sup>346</sup> This model integrates the medical assessment received during traditional prenatal care visits with prenatal health education, consultation, and peer support.<sup>347</sup> This model is facilitated by a credentialed health care provider within a group environment and has been identified by the Agency for Healthcare Research and Quality as a “service delivery innovation with strong evidence.”<sup>348</sup>

“Centering group prenatal care follows the recommended schedule of 10 prenatal visits, but each visit is 90 minutes to two hours long - giving women 10x more time with their provider. Moms engage in their care by taking their own weight and blood pressure and recording their own health data with private time with their provider for belly check. Once health assessments are complete, the provider and support staff ‘circle-up’ with moms and support people. They lead facilitative discussion and interactive activities designed to address important and timely health topics while leaving room to discuss what is important to the group. Centering materials help moms and providers ensure that everything from nutrition, common discomforts, stress management, labor and delivery, breastfeeding, and infant care are covered in group.”<sup>349</sup>



Several studies have documented significant reductions in preterm births among women in states offering the CenteringPregnancy Model.<sup>350</sup> It has also been reported that CenteringPregnancy may reduce costs through fewer NICU admissions among women participating.<sup>351</sup> Among newborns born to mothers participating in CenteringPregnancy, 3.5% had a NICU admission compared to 12.0% of newborns born to moms who received individual care.<sup>352</sup> The same study found that investing \$14,875 to provide CenteringPregnancy for 85 patients led to an estimated cost savings of \$67,293 in NICU costs for MCOs.<sup>353</sup>

CenteringPregnancy is currently implemented in South Carolina through MUSC, Self Regional Healthcare, Tidelands Health, and Prisma Health.<sup>354, 355, 356, 357</sup> SCDHHS, in partnership with the South Carolina Chapter of the March of Dimes, launched the South Carolina CenteringPregnancy Expansion Project (SCCPEP) in 2013.<sup>358</sup> Since its launch, SCCPEP has supported implementation through financial support, technical assistance, and training across 24 sites through grant funding and enhanced reimbursement rates facilitated by SCDHHS to offset costs for supplies and increased demands on provider time.<sup>359</sup> Key findings from an evaluation conducted on outcomes from 2013-2018 found that participants overall experienced better maternal health outcomes, and Black women experienced “lower rates of preterm birth, low birthweight, NICU admissions, and higher rates of breastfeeding” following attendance of at least five sessions.<sup>360</sup>

Another promising model is the organization PASOs. In 2005, PASOs was founded with support from the Division of Women's and Neonatology Services at Prisma Health (formerly Palmetto Health Richland) and the South Carolina Chapter of the March of Dimes.<sup>361</sup> PASOs has been designated as a best practice for their work through PASOs Health Connections by the Association of Maternal & Child Health Programs (AMCHP).<sup>362</sup> Through a network of over 150 Promotores, PASOs utilizes the Community Health Worker (CHW) model to work with members of the Latino community across a variety of clinical and community-based settings to improve access to culturally appropriate clinical care, social services, and community resources.<sup>363, dd</sup> Through their robust network of CHWs/Promotores, PASOs works to provide "culturally responsive education on family health, early childhood, and positive parenting skills; individual guidance for participants in need of resources; and partnerships with health care and social service providers to help them provide more effective services."<sup>364</sup>

PASOs' Reproductive Health CHWs play a critical role in facilitating necessary care and education for Latino mothers, infants, and families across the state. Reproductive Health CHWs are certified to provide comprehensive, patient-centered contraceptive counseling in Spanish. Their model consists of three components:<sup>365</sup>

### ***Counseling***

"The CHW meets with the participant in a private room usually in a clinic, community setting, or in an office. They take the time to listen and understand the participant's needs. They then provide counseling and education about having a reproductive life plan, contraception, and birth control methods."<sup>366</sup>

### ***Connect to Resources***

"If the participant chooses a method, a referral is made to the appropriate clinical resource with the CHW supporting the participant throughout the process as they connect them to needed resources."<sup>367</sup>

### ***Follow Up***

"The CHW conducts a follow up phone call with the participant, offers support, and ensures that they were able to connect with the needed resources, get their chosen method, and that they were treated well throughout the process."<sup>368</sup>

PASOs Health Connections is currently offered in Beaufort, Berkeley, Charleston, Dorchester, Greenwood, Horry, Jasper, Lexington, Newberry, Richland, and Saluda counties.<sup>369</sup> In 2023, over 7,000 adults and children were connected with the resources needed for them to thrive.<sup>370</sup> PASOs Promotores also implement the PASOs Connections for Child Development in which CHWs administer developmental screenings across a variety of settings, including the family's home, clinical settings, and community-based sites, and then connect families to the appropriate resources and specialized care.<sup>371</sup> This program is currently offered in Beaufort, Jasper, Berkeley, Charleston, Dorchester, Lexington, Richland, Horry, Saluda, Greenwood, and Newberry counties.<sup>372</sup> In 2023, 794 children received a developmental screening and 711 parents received the education needed to better support their child's developmental needs at home.<sup>373</sup>

## ***Action Steps***

- Conduct a robust landscape analysis of group prenatal education and care models across the state.
- Identify key partners to explore opportunities to expand and scale existing models.
- Develop an evaluation plan across care models with a focus on shared accountability and dissemination across partners.
- Develop enhanced reimbursement mechanisms so that payers can compensate providers and practices facilitating CenteringPregnancy to increase uptake and ensure program sustainability.

<sup>dd</sup> Promotores are community members who share the same "language, culture, ethnicity, status, and experiences" of the residents in the communities they serve. Promotores hold roles such as community health workers, peer educators, patient liaisons, family educators, and health advocates and work to improve to build and maintain trust to serve as vital links between their community and both health and social service providers. Source: Vision y Compromiso. (n.d.). Who Are Promotores?. Retrieved from: <https://visionycompromiso.org/who-we-are/who-are-promotores/>.



## Timeline

### Year 1

Work with community partners, rural stakeholders, and health care providers to conduct a robust landscape analysis of existing group prenatal education and care models across the state. Enhance monitoring, evaluation, and sharing of data on patient outcomes and associated cost savings for existing programs statewide. Select promising programs for replication and scalability to identify which programs are needed to close education and service provision gaps.

### Year 2

Fund and implement expansion of successful group prenatal education and care programs in rural, underserved communities across the state.

### Year 5

Finalize the evaluation and community impact assessment of initial pilot expansion program(s).

### Years 1-10

Continued monitoring, evaluating, and expanding of patient outcomes and community impact of group prenatal education and care models.

## Lead Organizations

- South Carolina Department of Public Health (Mobile Maternity Care Unit)
- March of Dimes (Mobile Maternity Care Unit)
- SC Telehealth Alliance and Palmetto Care Connections (Remote Monitoring Equipment)
- CenteringPregnancy and PASOs (Group Prenatal Education and Care Models)

## Supporting Organizations<sup>ee</sup>

- |   |   |
|---|---|
| • AfterBirth LLC  | • Project ECHO South Carolina Pregnancy Wellness                              |
| • Beaufort Jasper Hampton Comprehensive Health Services, Inc. | • Self Regional Healthcare  |
| • Beloved Early Education & Care (BEE) Collective             | • South Carolina Center for Rural and Primary Healthcare                      |
| • BirthMatters  | • South Carolina Chapter of the American Academy of Pediatrics                |
| • Children's Hospital Coalition                               | • South Carolina Christian Action Council                                     |
| • Clemson Rural Care  | • South Carolina Community Health Worker Association                          |
| • Diabetes Free SC  | • South Carolina Department of Alcohol and Other Drug Abuse Services          |
| • Dreams With Open Arms                                       | • South Carolina Department of Public Health                                  |
| • Health Evolve   | • South Carolina Department of Social Services                                |
| • Healthy Start   | • South Carolina ETV  |
| • Institute for Child Success                                 | • South Carolina Hospital Association   |
| • March of Dimes  | • South Carolina Office of Rural Health/Family Solutions                      |
| • Medical University of South Carolina                        | • South Carolina Section of the American College of Obstetrics and Gynecology |
| • Optum Women's and Children's Home Health                    | • South Carolina Telehealth Alliance  |
| • Palmetto Care Connections                                   |   |
| • Prisma Health   |   |

<sup>ee</sup> A supporting organization is not required to take action to execute the recommendation, but the designation means that if the recommendation is implemented the organization may be able to provide some support, whether advising, participating in the work, or contributing to implementation in another way.



## RECOMMENDATION:

### *Care Delivery #2*

**Establish state-sanctioned and funded maternal care facilities to provide access to birthing services within 60 miles of each pregnant woman's home or workplace. Along with existing health care services, fully develop a hub-and-spoke model to better connect rural community-based prenatal, postpartum, and infant providers with hospital-based providers.**

#### *Context*

According to a recent analysis conducted by the Institute for Families in Society (IFS) at the University of South Carolina, 13 labor and delivery units have closed in South Carolina since 2021.<sup>374</sup> Of the remaining hospitals, one in four (25%) do not provide birthing services.<sup>375</sup> Over half of the counties across the state have been designated as a medically underserved area, with approximately two in five counties having no or restricted access to maternity care.<sup>376</sup> The same study found that both the average driving distance in miles and driving time in minutes for deliveries are higher for rural residents compared to their urban counterparts.<sup>377</sup> On average, rural residents traveled 1.6 times farther (17.3 miles) and 1.8 times longer

(24.4 minutes) than urban residents.<sup>378</sup> After adjusting for comparisons of deliveries among mothers with co-occurring conditions and those without for deliveries in 2023, the analysis found that a long drive time was associated with poor outcomes, concluding that “the farther a woman travels to their birthing hospital, the greater the risk of maternal morbidity outcomes.”<sup>379</sup> Specific maternal morbidity outcomes include “increasing rates of severe maternal morbidity (SMM), avoidable C-sections, low birthweight, and prematurity.”<sup>380</sup>

This recommendation acknowledges that there is currently insufficient access to birthing services in many rural communities in South Carolina. One possible funding mechanism for the establishment of these facilities is to model them on the SCDHHS partnerships with health systems to implement their EMPATH units in hospitals across the state. In 2023, SCDHHS awarded \$45.5 million in funding through its behavioral health crisis stabilization grant to 13 hospitals across the state to build crisis stabilization units distinct from a traditional emergency department (ED) setting to create a “calm, safe, and healing environment.”<sup>381</sup> Each unit was designed to be equipped and staffed to “provide immediate evaluation and treatment by a multidisciplinary team that is available 24 hours per day, 365 days per year.”<sup>382</sup> Funds were awarded as a one-time infrastructure grant to build specialized hospital-based emergency department units dedicated to behavioral health.<sup>383</sup> The 13 awardees include:

- AnMed Health Medical Center
- Beaufort Memorial Hospital
- Grand Strand Medical Center
- Hampton Regional Medical Center
- Lexington Medical Center
- McLeod Regional Medical Center
- MUSC Health, Kershaw Medical Center
- MUSC Health, Orangeburg Medical Center
- MUSC Health, University Hospital
- MUSC Shawn Jenkins Children's Hospital
- Prisma Health Oconee Memorial Hospital
- Prisma Health Tuomey Hospital
- Trident Medical Center

The IFS analysis described on page 50 also found that two out of five women traveled outside of their county of residence for their delivery.<sup>384</sup> It was also reported that among the 1,242 women who traveled 60 miles or more for care, over 80% continued to seek care outside their county of residence despite a birthing facility being available within their county.<sup>385</sup> Women who traveled the farthest distance to care were more likely to be Medicaid beneficiaries, have a co-occurring physical health/behavioral health condition, and reside in a rural area or an area with a high Maternal Vulnerability Index rating.<sup>386</sup> These findings underscore the need to further investigate population-specific drivers of commuting patterns and “realized access or the utilization of a specific health care service based on awareness of service availability.”<sup>387</sup>

In South Carolina, the perinatal care network is organized by perinatal region designations as assigned by DPH. There are currently five regions across the state [Regions I/II (Upstate), Region III (Midlands), Region IV (Pee Dee), and Region V (Lowcountry)] and each region has a designated Regional Perinatal Care Center (RPC).<sup>388</sup> All perinatal hospitals providing services within that region are responsible for maintaining a relationship with its designated RPC for “consultation, transport, transfer when appropriate, and continuing education.”<sup>389</sup> Table 1 in the Appendix provides an overview of South Carolina hospitals included in the Perinatal Regionalization System as of February 2025.<sup>390</sup>

The hub-and-spoke model design is characterized by the organization of service delivery assets among an anchor establishment designated as the “hub” and complementary secondary establishments designated as “spokes.”<sup>391</sup> The hub is responsible for offering a full array of services, and the spokes serve as extensions of the hub, offering more limited services and facilitating coordinated care with the hub for patients in need of more extensive services.<sup>392</sup> Hub-and-spoke models have been demonstrated to be a more effective utilization of resources within a health care system or organization, particularly in low-resource and rural settings.<sup>393</sup>

In addition to developing the infrastructure for new birthing facilities and hub-and-spoke models to increase access to care, it is critical that the fiscal impact of increased access be understood. It has been well documented that the receipt of adequate prenatal care in birth center settings has been associated with “lower rates of preterm and low-birthweight infants, lower rates of cesarean section, and higher rates of vaginal birth after cesarean” for Medicaid-covered births.<sup>394</sup> While these outcomes are linked to lower health care costs for births analyzed across Alabama, Arizona, Florida, Louisiana, Maryland, Mississippi, Missouri, Nevada, New Jersey, Pennsylvania, South Carolina, Tennessee, and the District of Columbia from 2014-2015,<sup>395</sup> a South Carolina specific study is warranted.

### *Action Steps*

- Leverage findings from the landscape analysis conducted by the DPH to plan for the piloting of its mobile maternity care unit, the 2024 South Carolina State Health Assessment, and local community health needs assessments to identify areas of need and maternal vulnerability at the community level.
- Conduct a South Carolina-specific economic impact study to analyze the costs to Medicaid associated with providing adequate care across the pregnancy continuum compared to the costs of neonatal care.
- Examine commuting patterns and related access as a follow-up investigation of the findings from IFS’s most recent examination of travel distance for deliveries and maternal morbidity risk for South Carolina births in 2023.
- Enhance the infrastructure for closed-loop referral systems between rural community-based providers, social service organizations, and hospital-based providers. This infrastructure is critical to ensuring the successful collaboration between birthing centers, providers, and community-based organizations engaged in hub-and-spoke models.
- Develop a robust partner network to develop sustainable financing, staffing, and infrastructure plans for the development of maternal care facilities where women can access birthing services.
- Engage community leaders and individuals with lived experience in planning processes and in the development of a robust evaluation plan regarding the quality and acceptability of care, patient and provider satisfaction, clinical outcomes, and community impact.

## Timeline

<b>Year 1</b>	After a robust analysis of market factors, regulatory drivers, and funding mechanisms, identify the location(s) for the pilot site(s).
<b>Year 2</b>	Work to build partnership networks for infrastructure development. Identify key partners and strengthen relationships with community-based organizations to understand local needs and build trust.
<b>Year 3</b>	Build new facility (or facilities) for women to give birth in low-access areas that are components of a hub-and-spoke model.
<b>Year 5</b>	Finalize the evaluation and impact assessment of pilot facility/facilities.
<b>Year 6</b>	Explore the potential to expand the network of maternal care centers across the state based on the impact assessment and funding availability.
<b>Years 1-10</b>	Continue to strengthen local partnerships and conduct a robust evaluation and monitoring of all facilities where women give birth.

## Supporting Organizations<sup>ff</sup>

- AfterBirth LLC
- Beaufort Jasper Hampton Comprehensive Health Services Inc.
- The Beloved Early Education & Care (BEE) Collective
- BirthMatters
- Diabetes Free SC
- Health Evolve
- Healthy Start
- March of Dimes
- Medical University of South Carolina
- Nursing groups
- Prisma Health
- Self Regional Healthcare
- South Carolina Area Health Education Consortium
- South Carolina Center for Rural and Primary Healthcare
- South Carolina Chapter of the American Academy of Pediatrics
- South Carolina Christian Action Council
- South Carolina Community Health Worker Association
- South Carolina Department of Public Health
- South Carolina Hospital Association
- South Carolina Office of Rural Health/Family Solutions
- South Carolina Primary Health Care Association
- South Carolina Regional Perinatal System
- South Carolina Section of the American College of Obstetrics and Gynecology
- University of South Carolina School of Medicine

<sup>ff</sup> A supporting organization is not required to take action to execute the recommendation, but the designation means that if the recommendation is implemented the organization may be able to provide some support, whether advising, participating in the work, or contributing to implementation in another way.



## RECOMMENDATION:

### *Care Delivery #3*

**Encourage medical providers who traditionally take care of infants (pediatricians, family medicine physicians, etc.) to participate in a pilot program to evaluate the health outcomes and cost savings associated with educating and screening postpartum moms for health conditions. Explore billing for dyadic services to better address the health needs of moms and babies.**

#### *Action Steps*

- Conduct a statewide assessment of programs currently providing education and screenings to postpartum mothers. Expand that assessment to evaluate available outcomes data, associated expenditures, and expenditures avoided from adverse outcomes.
- Leverage findings from that assessment to inform the planning and implementation of a pilot program for medical providers traditionally involved in pediatric care to provide postpartum education and health screenings for new mothers during well-child visits. Utilize the patient outcome data to examine cost savings from this program.
- Expand provider awareness of dyadic service delivery models and the existing infrastructure for reimbursement of dyadic service provision.<sup>99</sup>
- Explore opportunities for enhanced reimbursement mechanisms for more robust service delivery in pediatric settings for new mothers and infants.
- Increase the accessibility of dyadic services.

#### *Context*

##### BEHAVIORAL HEALTH

Untreated postpartum depression exacerbates existing poor health outcomes among mothers and infants, and costs the US more than \$14 billion each year.<sup>396</sup> Nationally, it is estimated that one in seven Medicaid beneficiaries experience postpartum depression, and only 10% of mothers who are screened and referred for treatment actually receive care.<sup>397</sup> Many new moms have their first postpartum OB/GYN appointment six weeks after delivery.<sup>398</sup> However, “the American Academy of Pediatrics recommends routine screening for postpartum depression during well-child visits at 1, 2, 4, and 6 months of age.”<sup>399</sup> In South Carolina, pediatricians are reimbursed through Medicaid to screen for postpartum depression.<sup>400</sup> It has been reported that three in four mother-infant pairs received more preventative care visits during pediatric settings than adult settings in the



<sup>99</sup> Although more common to behavioral health, dyadic treatment can also be used for physical health. For example, dyadic treatment has been studied for its impact on weight management and physical activity, as noted in two studies: (1) Kang Sim, D. E., Strong, D. R., Manzano, M. A., Rhee, K. E., & Boutelle, K. N. (2020). Evaluation of dyadic changes of parent-child weight loss patterns during a family-based behavioral treatment for obesity. *Pediatric obesity*, 15(6), e12622. <https://doi.org/10.1111/jpo.12622> and (2) McCullough, A. K., Duch, H., & Garber, C. E. (2018). Interactive Dyadic Physical Activity and Spatial Proximity Patterns in 2-Year-Olds and Their Parents. *Children* (Basel, Switzerland), 5(12), 167. <https://doi.org/10.3390/children5120167> (Carolyn, M. Email to Pack, M. 2025, March 7)

year following delivery.<sup>401</sup> It has been well documented that postpartum depression screening in pediatric/family medicine settings is not only effective but also feasible based on the well-child visit schedule, positioning providers well to identify depressive symptoms early.<sup>402, 403, 404</sup> Despite the efficacy of this approach, a lack of parity in coverage and reimbursement mechanisms between physical and mental health conditions presents a significant barrier.<sup>405</sup>

One private South Carolina insurer noted, “there could well be possible billing issues depending on the code combinations. But we can control these code combinations in terms of editing (meaning that the claims system here can accommodate them). If we determine that it is appropriate for our providers to participate in these programs, we can reimburse them for the service they are providing. We would setup our system(s) to allow the codes to pay separately. This can be done at the code or provider level. The bottom line is that without coding for the changes, payment would not occur. But with proper approvals and work ahead of time we can handle it.”<sup>406</sup>

According to Medicaid policy, “via Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) benefits and periodicity schedules, Medicaid currently reimburses Caregiver-Focused Health Risk Assessment (e.g., depression inventory) for the benefit of the patient. This code is limited to a frequency of two times per DOS (date of service). Examples of standardized screening instruments include, but are not limited to, the Edinburgh Maternal Depression Screen and the Safe Environment for Every Kid (SEEK).”<sup>407</sup>

In terms of data, the Alliance for Innovation on Maternal Health has developed a robust resource collection of data-driven maternal safety and quality improvement practice guidelines broadly categorized as “AIM Bundles.” Among these bundles are two specific to the behavioral health of pregnant and postpartum women: “Perinatal Mental Health Conditions” and “Care for Pregnant People and Postpartum People with Substance Use Disorder.”

SCDHHS is the lead agency working with statewide champions to implement these bundles, with a current focus on the Severe Hypertension in Pregnancy Safety Bundle. SCDHHS has indicated TMaH funding will be used to support AIM implementation statewide.<sup>408</sup> An overview of behavioral-health-specific AIM bundles is available in Figures 1 and 2 in the Appendix.

## PHYSICAL HEALTH

More work is needed to ensure that providers typically caring for infants can assess and address physical health problems in the mother.
















One resource that may be considered for implementation is the HEAR HER Campaign, an initiative launched by the CDC, that shares “potentially life-saving messages about urgent maternal warning signs” and includes resources for health care professionals, moms, and anyone else who supports moms and babies.<sup>409</sup> The primary objectives of this program are to:<sup>410</sup>

- Increase awareness of serious pregnancy-related complications and their warning signs.
- Empower women who are pregnant and postpartum to speak up and raise concerns.
- Encourage support systems to engage in important conversations.
- Provide tools for pregnant and postpartum women and health care professionals to better engage in potentially life-saving conversations.<sup>410</sup>

The urgent maternal warning signs include several symptoms, from dizziness or fainting to overwhelming tiredness, as depicted below.<sup>411</sup>

FIGURE 12

Symptoms that Signal Urgent Maternal Warning Signs

			
Headache that won't go away or gets worse over time	Dizziness or fainting	Changes in your vision	Fever of 100.4°F or higher
			
Extreme swelling of your hands or face	Thoughts of harming yourself or your baby	Trouble breathing	Chest pain or fast beating heart
			
Severe nausea and throwing up	Severe belly pain that doesn't go away	Baby's movement stopping or slowing during pregnancy	Severe swelling, redness or pain of your leg or arm
			
Vaginal bleeding or fluid leaking during pregnancy	Heavy vaginal bleeding or discharge after pregnancy	Overwhelming tiredness	

Source: Centers for Disease Control and Prevention. (2024). HEAR HER Campaign. An Overview.

## DYADIC TREATMENT

Parent-child dyadic treatment models are promising, evidence-based approaches that can be adapted to meet the unique needs of specific patient populations.<sup>hh</sup> The parent-child dyadic treatment model is foundationally defined as the treatment of a parent and infant together to mitigate adverse health effects in health outcomes.<sup>412</sup> During this treatment, the clinician provides the parent or caregiver with interventions and resources to better respond to their infant's needs and facilitate the development of a "healthy, nurturing parent-child relationship."<sup>413</sup> Specific examples of evidence-based parent-child dyadic treatment models include Child-Parent Psychotherapy (CPP), Parent-Child Interaction Therapy, and Attachment Biobehavioral Catch-Up.<sup>414</sup>

Several randomized controlled trials have examined the effects of CPP on outcomes. These studies have shown significant improvements in "social-emotional and behavioral problems" in young children and the development of secure attachment styles.<sup>415</sup> Despite the efficacy of this treatment approach, cultural beliefs, lack of patient and provider awareness of access, stigma, family hesitancy, and cost serve as pervasive barriers to implementation and uptake.<sup>416</sup>

The Institute for Child Success (ICS) is partnering with The Duke Endowment on a multi-year project to analyze "the outcomes demonstrated in evidence-based programs for different races and ethnicities."<sup>417</sup> The project will include a literature review, "identification of growth targets," and "evaluation of additional evidence-based interventions for child maltreatment and trauma."<sup>418</sup>

While most dyadic treatment models focus on the collaborative treatment of behavioral health conditions, adverse events during the postpartum period are often secondary to preventable causes. These conditions encompass both physical and behavioral health domains and can include hypertensive disorders, depressive disorders, and thromboembolic events.<sup>419</sup> There is some research demonstrating the potential for maternal-infant dyadic treatment approaches to address both physical and behavioral health conditions and reduce health disparities.<sup>420</sup> Additional research, as well as the development of more robust standards for holistic dyadic treatment models, is needed to ensure the delivery of patient-centered, whole-person care.

### *Timeline*

#### **Year 1**

Work with community partners, rural stakeholders, and health care providers to conduct a robust landscape analysis of existing programs providing postpartum education and screenings to new mothers in pediatric settings. Enhance monitoring, evaluation, and sharing of data on patient outcomes and cost savings for existing programs across the state. Select promising programs for replication and scalability and identify what programs are needed to close education and service provision gaps.

#### **Year 2**

Implement the first pilot program in a rural, underserved community.

#### **Year 5**

Finalize the evaluation and community impact assessment of initial pilot expansion program(s).

#### **Years 1-10**

Continued monitoring and evaluation of programs, patient outcomes, and community impact.

<sup>hh</sup> According to one private South Carolina insurer, "behavioral health providers are typically reimbursed for dyadic therapies through typical outpatient therapy CPT coding with add on complexity codes, if applicable. Examples of these codes are 90832, 90834, 90837, 90847, and 90840. [They] contract with independently licensed BH counselors, social workers, LMFT, psychologists and psychiatric prescribers (MD/DO, PA and NP)." (Email to Pack, M. 2025, February 7)



## Supporting Organizations<sup>ii</sup>

- AfterBirth LLC
- BlueCross BlueShield of South Carolina Foundation
- Diabetes Free SC
- Federally Qualified Health Centers
- Healthy Start
- Institute for Child Success
- Managed Care Organizations
- Medical University of South Carolina
- Neonatal Providers
- Postpartum Support International
- Prisma Health
- University of South Carolina Rural Health Research Center
- Rural Health Family Practices
- Shades of Blue Project
- South Carolina Center for Rural and Primary Healthcare
- South Carolina Chapter of the American Academy of Pediatrics<sup>jj</sup>
- South Carolina Christian Action Council
- South Carolina Community Health Worker Association
- South Carolina Department of Alcohol and Other Drug Abuse Services
- South Carolina Department of Health and Human Services<sup>kk</sup>
- South Carolina Department of Mental Health
- South Carolina Department of Public Health
- South Carolina First Steps
- South Carolina Hospital Association
- South Carolina Infant Mental Health Association
- South Carolina Office of Rural Health/Family Solutions
- South Carolina Primary Health Care Association
- South Carolina Section of the American College of Obstetrics and Gynecology
- South Carolina Telehealth Alliance
- South Carolina Rural Health Association
- University of South Carolina Center for Applied Research and Evaluation
- Medical schools
- Residency programs

NATIONALLY,  
*an estimated **1 in 7 Medicaid beneficiaries** experience postpartum depression, and only **10% of mothers** who are screened and referred for treatment actually receive care.*<sup>397</sup>



<sup>ii</sup> A supporting organization is not required to take action to execute the recommendation, but the designation means that if the recommendation is implemented the organization may be able to provide some support, whether advising, participating in the work, or contributing to implementation in another way.

<sup>jj</sup> Can provide the content experts and engage a larger audience of pediatric providers.

<sup>kk</sup> The Quality through Technology and Innovation in Pediatrics (QTIP) program, housed at SCDHHS, can provide lessons learned from their recent QI 4th Trimester workshop.



## RECOMMENDATION:

### *Care Delivery #4*

**The South Carolina Department of Public Health will explore the demand for and ability of local health departments to offer physical space for a partner medical entity to offer prenatal services, prioritizing high-need counties.**

#### *Action Steps*

- Leverage findings from the landscape analysis conducted by DPH to plan for the piloting of its mobile maternity care unit, the 2024 South Carolina State Health Assessment, and local community health needs assessments to identify areas of need and maternal vulnerability, and to align efforts to bridge gaps in service provision, reduce duplication of efforts, and ensure coordinated care delivery.
- Conduct a statewide assessment of the demand for and ability of local health departments to offer prenatal services, prioritizing high-need counties through a medical partner.
- Engage community leaders and individuals with lived experience in planning processes and in the development of a robust evaluation plan regarding the quality and acceptability of care, patient and provider satisfaction, clinical outcomes, and community impact.
- Expand partnerships between local health departments, community-based organizations, providers, and any other stakeholders needed for implementation.
- Ensure funding and the workforce required to run new or extended programs are available.
- Practice transparency and accountability in the development, implementation, and continued operation of the services.

#### *Context*

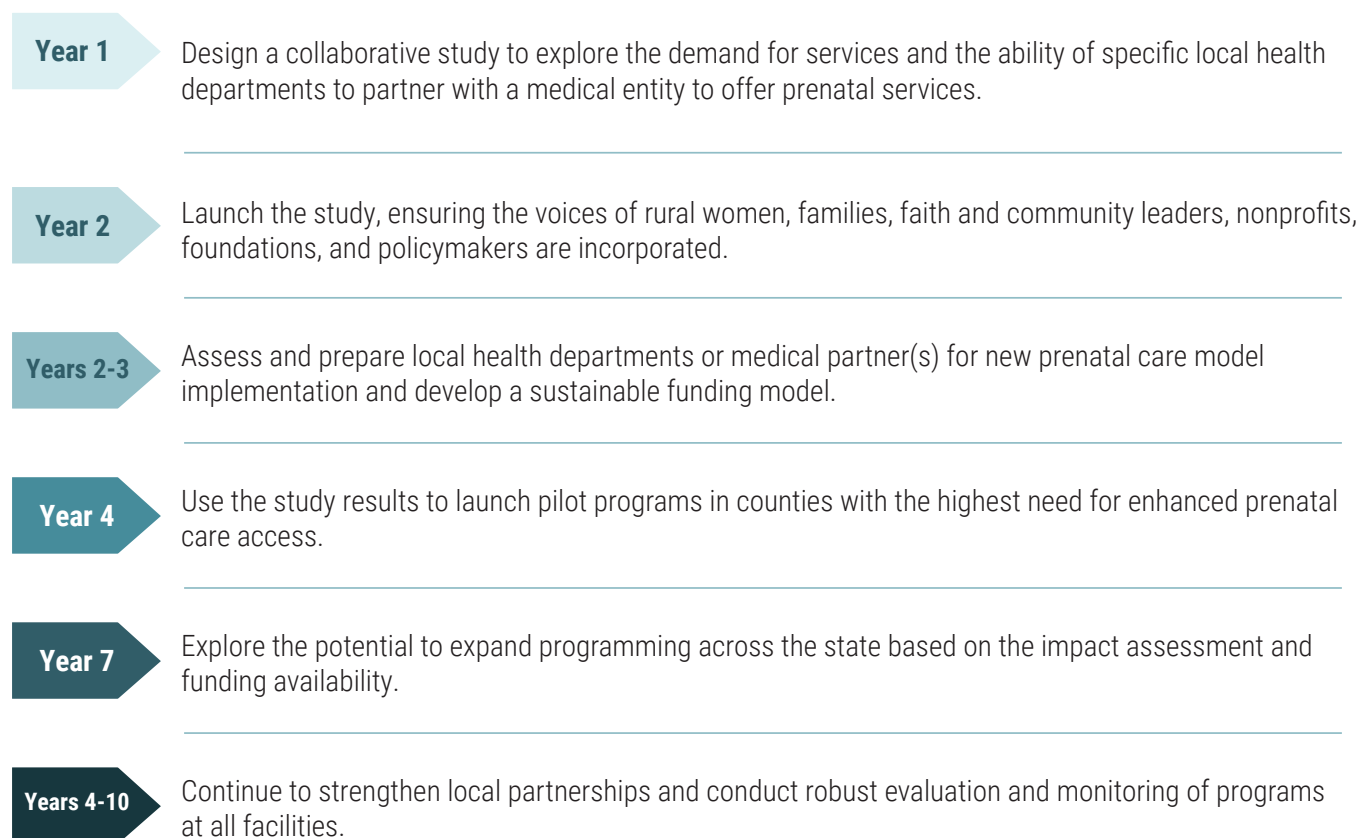
Local health departments play an essential role as community-based health and social service providers in both rural and urban areas. Statewide primary care provider maldistribution and less robust transportation systems in rural areas make it difficult to ensure adequate access to prenatal care services. Across the country, and historically in South Carolina, local health departments have been able to fill gaps in prenatal care, especially among rural and underserved patient populations. In addition to the provision of clinical care in collaboration with medical providers located in more urban areas, local health departments are also well positioned to refer patients to community-specific social service providers and community-based organizations to holistically address all facets of prenatal care needs, many of which encompass nonmedical drivers of health. In rural and underserved areas, local health departments have the potential to contribute to improved health outcomes not only for expectant mothers but also for their entire family.<sup>421</sup>

According to *The Role of Local Health Departments in Women's Health and the Opportunity to Improve Rural Maternal Health Outcomes*, "Integration of clinical and community-based providers, such as local health departments and social service agencies, with schools, community organizations, home visitors, the faith community, and other stakeholders offers a true wraparound approach to comprehensive care."<sup>422</sup> Although positioning local health departments as sole providers of maternal and infant care may not be appropriate in all contexts (due to the highly specific needs of moms and babies at the local level), they can play the critical role in connecting resources.

Some local health departments have been successful in expanding care delivery through partnerships with other organizations. The Tennessee Homeland Heart model "partnered its community-based doula training with Nashville Strong Babies, a program supported by the local health department."<sup>423</sup> Participating patients in seven Middle Tennessee zip codes receive prenatal and postpartum resources at no cost, including doula care and lactation support.<sup>424</sup> Additionally, "Homeland Heart provides affordable perinatal care for families outside of these ZIP codes by assigning each mother and family a birth team . . . The families have access to an inclusive list of resources (both internally and in partnership with other local businesses and organizations), including childbirth education, a 'community closet' full of donated items, prenatal and postnatal chiropractic care, and perinatal mental health support."<sup>425</sup>

Taskforce members noted that in South Carolina, the need for care coordination and full-time access to services for moms and babies, including collaboration with existing community-based organizations, is critical to improving outcomes. However, the availability of adequate staffing to serve high-need individuals and areas should be examined.

### *Timeline*



### *Lead Organization*

- South Carolina Department of Public Health

### *Supporting Organizations<sup>11</sup>*

- Beaufort-Jasper-Hampton Comprehensive Health Services, Inc.
- BirthMatters
- Black Maternal Health Collective
- Health Evolve
- Healthy Start
- Institute for Child Success
- South Carolina Area Health Education Consortium
- South Carolina Christian Action Council
- South Carolina Hospital Association
- South Carolina Infant Mental Health Association
- South Carolina Office of Rural Health/Family Solutions



<sup>11</sup> A supporting organization is not required to take action to execute the recommendation, but the designation means that if the recommendation is implemented the organization may be able to provide some support, whether advising, participating in the work, or contributing to implementation in another way.



# WORKFORCE

## RECOMMENDATION:

### *Workforce #1*

**Expand and empower essential members of the prenatal and postpartum workforce who provide care to moms and infants in rural areas of South Carolina and promote more team-based care. This includes adequate pay, ensuring rural providers are paid equally to their urban counterparts, and subsidizing malpractice insurance for rural providers.**

#### *Action Steps*

- Identify existing roles within the prenatal and postpartum workforce that are not adequately compensated. Compare salaries across employers and with salaries in other southeastern states within disciplines.
- Develop pilot programs that test guaranteed, ongoing pay parity for rural health workers. Provide funding directly to rural health centers, FQHCs, and other local providers so they can pay a competitive wage to the rural prenatal and postpartum workforce, as these organizations cannot offer pay that is competitive with local hospitals and health systems.<sup>426</sup>
- Subsidize malpractice insurance for rural providers.

#### *Context*

##### TEAM-BASED CARE

The essential members of the prenatal, postpartum, and infant workforce include physicians (obstetricians, pediatricians, psychiatrists, etc.), physician assistants, Advanced Practice Registered Nurses (certified nurse midwives and nurse practitioners), community doulas, community health workers, peer support specialists, psychologists, lactation consultants, and social workers. Given the range of workers providing care and support to mothers and infants, health care employers should implement team-based care models to improve overall patient care and outcomes.

Team-based care is an approach to health care that incorporates interdependence, care coordination, and a culture that encourages parity among all team members.<sup>427</sup> This model of care traditionally includes two or more health professionals who collaborate with patients and their caregivers to achieve high-quality, coordinated care.<sup>428</sup> Effective teamwork has been acknowledged as an essential tool for enacting patient-centered health care delivery; additionally, effective teamwork can minimize adverse events linked to miscommunication with other providers and misunderstandings of an individual provider's roles and responsibilities.<sup>429</sup> Effective teamwork has also been associated with organizational benefits such as reduced time and costs of hospitalization, a reduction in unexpected admissions, and services being more accessible to patients.<sup>430</sup>



South Carolina relies on the prenatal, postpartum, and infant workforce to improve outcomes for moms and infants, with significant financial impacts at stake. When considering the prenatal and postpartum workforce in rural areas of South Carolina, adequate pay should receive significant consideration to recruit and retain the workforce that is needed to support moms and infants. According to the South Carolina Department of Employment and Workforce, the hourly mean wage of “Healthcare Practitioners and Technical” occupations is \$44.06; however, the hourly mean wage of “Healthcare Support” occupations is \$16.89.<sup>431</sup> As a comparison, a South Carolina “living wage” for one adult with zero children is \$22.15 per hour.<sup>432, mm</sup> This Taskforce recommends providing adequate pay for all members of the prenatal and postpartum workforce and making reimbursement rates more competitive.

Additional incentives for essential members of this care team in rural areas of South Carolina should be incorporated. Most of the funding for community health workers, peer support specialists, and community doulas (all potential roles within a care team) is currently primarily obtained through grants, contracts, and memorandums of agreement. This is a contributing factor to the need to diversify funding, given that these sources of funding do not guarantee continued financial sustainability for the care team roles.<sup>433</sup>

The iCARE program through the University of South Carolina’s School of Medicine Center for Rural and Primary Healthcare can be referred to as a funding model to explore direct payments to rural health care facilities. The iCARE program funding supports practices and providers in South Carolina who offer primary and specialty care in rural areas and funds the establishment or expansion of services to include prenatal and postpartum services; eligible costs include salary and fringe.<sup>434</sup>

## SUBSIDIZING MALPRACTICE INSURANCE

Medical malpractice insurance costs are a concern for many providers. Medical malpractice insurance acts as a protective factor against liability should any services rendered result in patient injury or death.<sup>435</sup> Several states require physicians to maintain a minimum level of malpractice coverage to practice in that state or require a minimum level of malpractice coverage to qualify for specific state programs.<sup>436</sup> Although most states do not require malpractice coverage, most physicians opt-in to maintaining medical malpractice insurance proactively.<sup>437</sup>

There are several available options that have previously been implemented in other states that South Carolina could reference when addressing medical malpractice insurance costs for rural providers.

- North Carolina saw a “severe drop in obstetrical services in rural areas” between 1985 and 1989 with rising malpractice insurance rates as a contributing factor.<sup>438</sup> In response, the state government enacted the Rural Obstetrical Care Incentive program in 1988.<sup>439</sup> Initially, the program allotted \$6,500 per participating physician each year and was expanded to include an allotment of \$3,000 per year for certified nurse midwives in 1991.<sup>440</sup>
- In Oregon, the Oregon Rural Medical Practitioner Insurance Subsidy Program “offers reimbursement for medical malpractice insurance policy premiums to physicians and nurse practitioners who practice in rural Oregon.”<sup>441</sup> This reimbursement process for medical professionals is offered at differing rates based on role and services provided. Reimbursement rates for obstetric providers vary within this program as follows: 80% reimbursement is offered to physicians specializing in obstetrics and nurse practitioners certified for obstetric care; 60% is offered to physicians in family or general practice who provide obstetrics care.<sup>442</sup>

Funding incentives for medical malpractice, incentives for rural prenatal and postpartum care providers, and the incorporation of team-based care should be evaluated and addressed by the supporting organizations for this recommendation. Further research into ongoing efforts in South Carolina and other states should be conducted to identify best practices related to supporting the prenatal and postpartum workforce in rural areas.

<sup>mm</sup> Living wage is based on the hourly rate that an individual in a household must earn to support themselves while working full time (2080 hours per year); this wage is adjusted based on the number of adults and/or children within households.

## Timeline

### Year 1

- Conduct an analysis of current pay rates for members of the prenatal and postpartum workforce.
  - Identify payment opportunities to ensure that all members of the prenatal and postpartum workforce are adequately compensated for their role, including incentives for practicing in rural areas.
  - Connect with policymakers in North Carolina to learn more about their ROCI program and develop a pilot program in South Carolina.
- 

### Year 3

- Implement adequate pay through increased reimbursement for the prenatal and postpartum workforce based on analysis done in year one.
  - Pilot programs that cover the costs associated with medical malpractice for rural providers.
- 

### Year 5

- Evaluate recruitment and retention of members of the prenatal and postpartum workforce based on pay rate changes.
  - Conduct evaluations of pilot programs regarding medical malpractice insurance costs in rural communities.
- 

### Year 10

- Scale pilot programs to all rural areas of South Carolina if successful.

## Lead Organizations

- State Legislature
- Managed Care Organizations
- Private Insurance Companies

## Supporting Organizations<sup>nm</sup>

- |   |  |
|---|--|
| • The Beloved Early Education & Care (BEE) Collective | • Self Regional Healthcare                               |
| • Black Maternal Health Collective                    | • South Carolina Area Health Education Consortium        |
| • BirthMatters  | • South Carolina Center for Rural and Primary Healthcare |
| • Center for Community Health Alignment               | • South Carolina Christian Action Council                |
| • Diabetes Free SC                                    | • South Carolina Community Health Worker Association     |
| • Healthy Start                                       | • South Carolina Infant Mental Health Association        |
| • Health Evolve                                       | • South Carolina Office of Rural Health/Family Solutions |
| • Medical University of South Carolina                | • Consumers in rural communities                         |
| • Prisma Health                                       | • Chaplains  |

<sup>nm</sup> A supporting organization is not required to take action to execute the recommendation, but the designation means that if the recommendation is implemented the organization may be able to provide some support, whether advising, participating in the work, or contributing to implementation in another way.

## RECOMMENDATION:

### *Workforce #2*

**Utilize a framework similar to the Center for Community Health Alignment (CCHA) model to establish a similar organization and governance board for community doulas and peer support specialists.**

#### *Action Steps*

- Utilize CCHA's technical assistance services to develop an action plan for establishing an organization and governance board for community doulas and peer support specialists.
- Compare existing expectations for the roles of community doulas and peer support specialists and how they differ from the roles of other members of the health care team. Design an approach that will prevent misunderstandings of roles and responsibilities during patient care.
- Determine what training infrastructure is needed for individuals in these roles to ensure they are prepared for the unique challenges associated with rural communities, especially those that do not have any practicing OB/GYNs.
- Support and expand dual certification programs for peer support specialists, community doulas, and community health workers.

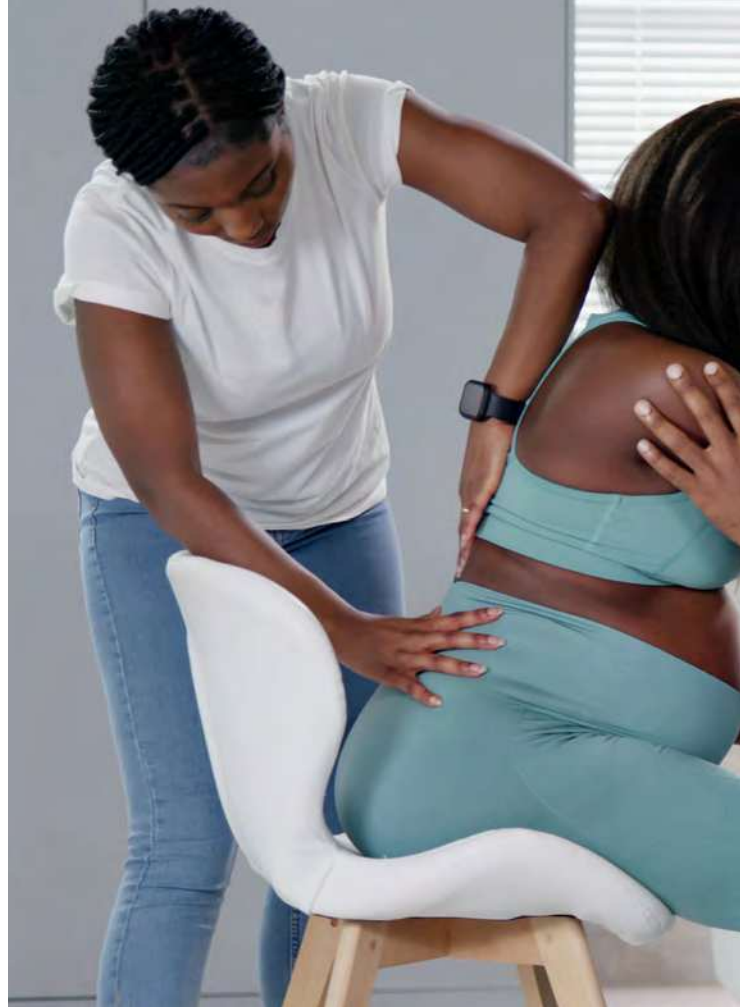
#### *Context*

##### ROLES AND TRAINING

Doulas are trained non-clinical support professionals who provide information, assistance, and physical and emotional support to a mother and her family during prenatal, birth, and postpartum periods. Specifically, “community-based doulas are defined as trained and/or apprenticed community birth workers who provide doula care rooted in evidence-based knowledge and shared lived experience.”<sup>443, 00</sup> Community doulas complete a 60-hour training curriculum, practicum observations, and 12 to 18 months of one-on-one mentorship with an experienced community doula.

Peer Support Specialists (PSSs) (also known as Recovery Coaches) are “people in substance use recovery who help others throughout the recovery journey.”<sup>444</sup> Certified PSSs in South Carolina can be certified by Addiction Professionals of South Carolina after completing 46 hours of training.<sup>445</sup> PSSs work in a variety of settings, including hospitals, recovery community organizations, treatment facilities, and schools. Individuals working with PSSs are connected to housing, transportation, treatment options, support groups, and other resources to encourage recovery.<sup>446</sup>

A peer recovery doula is a community-based doula who has lived experience with prenatal and/or postpartum SUD and/or recovery. Peer recovery doula training and certification includes community doula training, a practicum, and mentorship, plus Certified PSS training and certification.<sup>447</sup>



<sup>00</sup> There is a significant difference in community doulas and hospital-based doulas. For the context of this recommendation and the report, we are referring to community doulas.





CHWs are public health workers who are known to be trusted members of a community and/or have an especially close understanding of the community they serve.<sup>448</sup> Through increasing health knowledge and self-sufficiency, CHWs help build individual and community capacity to improve health.<sup>449</sup> The National Council on CHW Core Consensus Standards defines the roles and competencies required of CHWs; certification of CHWs is determined at the state level.<sup>450</sup> The South Carolina CHW Credentialing Council establishes the CHW core competency training, recertification, continuing education, and specialty track trainings for the state.<sup>451</sup>

## ORGANIZATIONAL STRUCTURE

The Center for Community Health Alignment (CCHA) at the Arnold School of Public Health at the University of South Carolina currently provides training to strengthen the CHW workforce and provides guidance on roles, responsibilities, and best practices for CHWs. CCHA is a nationally recognized leader in CHW training and technical assistance.<sup>452</sup> CCHA's training team facilitates core competency training in alignment with best practices that are nationally recognized by the Community Health Worker Core Consensus Project (C3 Project).<sup>453</sup> Through CCHA's CHW Core Competency Training Curriculum, prospective CHWs are introduced to the building blocks required to work as a CHW and are provided with the pathways to certification.<sup>454</sup> Once training is completed, participants are adequately prepared for the South Carolina Community Health Worker Exam, which is administered by the South Carolina Community Health Worker Association.<sup>455</sup>

Establishing an organization and governance board for community doulas and peer support specialists will provide a streamlined pathway to training, educating, and certifying each role. Standardizing the roles of community doulas and PSSs through core competency training will provide guidance during the development of training resources and continuous education within these roles in the prenatal and postpartum workforce; however, competencies must evolve over time as understanding grows and services evolve.<sup>456</sup> It has been noted that within a health care team, clearly defining roles provides expectations for each member, including their functions, responsibilities, and accountabilities.<sup>457</sup> Core competencies for peer support workers have been defined by the Substance Abuse and Mental Health Services Administration as recovery-oriented, person-centered, voluntary, relationship-focused, and trauma-informed.<sup>458</sup> Given the numerous types of doulas, core competencies specific to community doulas would need to be assessed and confirmed by the newly formed governance board.

CCHA, through funding from the BlueCross® BlueShield® of South Carolina Foundation, collaborated with three prenatal and postpartum CHW programs in South Carolina.<sup>459</sup> As a part of this three-year collaborative effort, Year 2 funding was provided to the MUSC Women's Reproductive Behavioral Health program to cross-train Certified PSSs as community-based doulas utilizing the BirthMatters curriculum.<sup>460</sup> Additionally, BirthMatters is developing a program for dual certification for CHWs and community doulas. The program will include a tiered certification with specialty track training. Additional funding and partnerships are needed at this stage.<sup>461</sup>

Another dual certification for CHWs and PSSs has been noted as an opportunity for integration of the individual roles' strengths and thus providing a more holistic approach to care.<sup>462</sup> Research suggests that the incorporation of peer support into CHW training could expand CHWs' ability to positively impact their clients' behavioral health needs; conversely, adding CHW principles into PSS training could expand PSSs' ability to address physical health needs that they are historically unable to within their current qualifications.<sup>463</sup>

The Institute for Families in Society (IFS) at the University of South Carolina is currently part of a six-state grant called Project DREAM that focuses on doula care programs within Medicaid.<sup>464</sup> Four of the six states working on Project DREAM have certification and training options available for doulas covered by Medicaid.<sup>465</sup> These four states could provide insight into doula care certification through other state Medicaid agencies and could be adapted to suit South Carolina's needs:

- **Maryland:** The state Medicaid agency provides a list of certifying organizations, and the certificate(s) required for enrollment as a Maryland Medicaid Doula.<sup>466</sup>
- **Michigan:** The state Medicaid agency provides a list of approved doula training programs/organizations.<sup>467</sup>
- **Virginia:** The state certification board provides a list of approved state-certified doula training entities, outlines the qualifications and educational requirements for the role, and provides details on responsibilities of the Virginia Board of Health as well as their appointed certifying body.<sup>468</sup>
- **Pennsylvania:** Unlike the states above, Pennsylvania utilizes a competency approach and provides details of certifying bodies and training certification/documentation required to be submitted to the state.<sup>469</sup>



## PAYMENT STRUCTURE

Community doulas are often salaried employees; however, the programs that community doulas work under are primarily funded through grants or philanthropy.<sup>470</sup> Doula coverage for Medicaid participants is a growing topic among state Medicaid agencies. As of January 2025, 15 states, plus Washington, D.C., have implemented some form of reimbursement for doulas serving Medicaid enrollees, a significant increase from five states in early 2022.<sup>471, 472</sup> In South Carolina, Senate Bill 42 (S.42) was filed prior to the start of the 2025 legislative session and would require both Medicaid and private insurance companies to provide coverage for doula services.<sup>473</sup> Certified doula services outlined in the bill include prenatal services, birthing services, and services within the first 12 months of the postpartum period.<sup>474</sup>

The South Carolina Department of Health and Human Services (SCDHHS) acknowledges Certified PSSs as paraprofessionals allowed to provide peer support services and assertive community treatment (ACT) according to the Rehabilitative Behavioral Health Services Provider Manual.<sup>475</sup> SC SHARE and Addiction Professionals of South Carolina-approved organizations are the only authorized providers of Peer Support Certification Training in South Carolina.<sup>476</sup>

SCDHHS follows the Medicare 8-minute rule for services and peer

support services are billed in 15-minute units with 16 units billed per day.<sup>477, pp</sup> All services must be documented on the Clinical Service Note (CSN) and meet all SCDHHS requirements for CSNs.<sup>478</sup> ACT is a team-based service that includes Certified Peer Support Services.<sup>479</sup> According to SCDHHS, individual peer services are reimbursed by Medicaid at the rate of \$13.24 per unit (15 minutes). Group peer services are reimbursed by Medicaid at the rate of \$2.32 per unit (15 minutes).<sup>480</sup>

<sup>pp</sup> The 8-Minute Rule for services means that when indicated by any discrete RBHS service, a provider may not bill for a service lasting less than eight minutes. There are daily unit limits. If any RBHS 15-minute service is performed for seven minutes or less, the service is not reimbursable.

## Timeline

### Year 1

- Utilize CCHA's technical assistance services to begin identifying necessary resources and partnerships needed to establish an organization for community doulas and peer support specialists similar to that of CCHA.
  - Identify funding resources available to develop the organization and associated costs.
  - Develop guidelines and requirements for governance board members.
  - Consult with existing organizations in other states that serve in a similar role.
- 

### Year 2

- Establish new organizational structures or organization(s) as 501(c)3 nonprofits when applicable.
  - Ensure the organization's mission, vision, and operation are aligned with the roles and responsibilities of community doulas and peer support specialists.
  - Begin recruiting staff and governance board members.
  - Begin developing core competencies, certification, and training requirements for community doulas and peer support specialists by consulting with existing organizations and credentialing bodies in South Carolina.
- 

### Year 3

- Continue the assessment of reimbursement by the state Medicaid agency and MCOs for community doulas and peer support services in alignment with the activities of the Transforming Maternal Health (TMaH) Model grant from CMS.
- Identify collaborative approaches to implement reimbursement for services provided by community doulas and increase reimbursement for PSSs.
- Develop recruitment plans for community doulas and PSSs.
- Continue the recruitment of community doulas and PSSs.

## Lead Organization

- Center for Community Health Alignment

## Supporting Organizations<sup>99</sup>

- |   |  |
|---|--|
| • Black Maternal Health Collective                | • South Carolina Center for Rural and Primary Healthcare |
| • BirthMatters                                    | • South Carolina Christian Action Council                |
| • Diabetes Free SC                                | • South Carolina Community Health Worker Association     |
| • Family Connection of South Carolina             | • South Carolina Hospital Association                    |
| • Healthy Start                                   | • South Carolina Infant Mental Health Association        |
| • Institute for Child Success                     | • South Carolina Office of Rural Health/Family Solutions |
| • South Carolina Area Health Education Consortium | • Chaplains  |

<sup>99</sup> A supporting organization is not required to take action to execute the recommendation, but the designation means that if the recommendation is implemented the organization may be able to provide some support, whether advising, participating in the work, or contributing to implementation in another way.



#### RECOMMENDATION:

### *Workforce #3*

**To increase the accuracy and availability of workforce data on maternal care providers in rural areas of the state, the South Carolina Revenue and Fiscal Affairs Office will work with the South Carolina Board of Nursing and the South Carolina Board of Medical Examiners to ask the following questions on licensure applications and renewals:**

- **Do you deliver babies as a routine part of your practice? (yes/no)**
- **Do you provide prenatal care as a routine part of your practice? (yes/no)**

#### *Action Steps*

- The data will be managed by the South Carolina Revenue and Fiscal Affairs Office (RFA), as with all health care professions licensing data.
- RFA will house, maintain, and update the data.
- The South Carolina Area Health Education Consortium's (AHEC) Office for Healthcare Workforce will provide routine updates on the number and location of providers who deliver babies and provide prenatal care in the state.

#### *Context*

Obtaining accurate data on the health care workforce caring for pregnant and postpartum women and their infants is essential for identifying gaps in provider availability, ensuring effective planning and policy development to fill those gaps, and providing adequate access to care.

#### *Timeline*

##### **Years 1-2**

RFA will work with the Boards and the South Carolina Department of Labor, Licensing and Regulation to have the questions added to the forms.

##### **Years 3-10**

Data will be housed at RFA and published every other year by SC AHEC.

#### *Lead Organizations*

- South Carolina Revenue and Fiscal Affairs Office
- SC Area Health Education Consortium Office for Healthcare Workforce

#### *Supporting Organizations<sup>17</sup>*

- South Carolina Department of Labor, Licensing, and Regulation
- South Carolina Office of Rural Health/Family Solutions

<sup>17</sup> A supporting organization is not required to take action to execute the recommendation, but the designation means that if the recommendation is implemented the organization may be able to provide some support, whether advising, participating in the work, or contributing to implementation in another way.



## RECOMMENDATION:

### *Workforce #4*

**Enhance collaborative care by removing financial barriers for Advanced Practice Registered Nurses (APRNs) supporting their full scope of practice.**

#### *Action Steps*

Stakeholders, such as hospitals and policymakers, should explore ways to subsidize the costs Advanced Practice Registered Nurses (APRNs) incur to maintain collaborative agreements with supervising physicians. Eliminating the financial barrier will incentivize and encourage APRNs to open independent practices in rural communities that experience physician shortages.

#### *Context*

In South Carolina, APRNs, including Certified Nurse Midwives (CNMs), are required to maintain a practice agreement with a physician to ensure the quality of clinical care and patient safety are maintained in accordance with state and federal laws.<sup>481</sup> As defined by the South Carolina Nurse Practice Act, a practice agreement is a written agreement developed by an APRN and a physician who agrees to work with and support the APRN.<sup>482, ss</sup> The practice agreement must address medical aspects of care, including prescriptive authority, transfer policies, and details on how to navigate situations when the physician is not available.<sup>483</sup> Physicians who enter into these agreements must be readily available, meaning that they must be able to be contacted either in person or by telecommunication methods to provide consultation and advice regarding patient care.

Currently, APRNs are required to pay fees to physicians to participate in and maintain collaborative practice agreements, which creates barriers to practice and discourages providers from setting up practices in rural markets, despite the demand and need for high-quality prenatal and postpartum care.<sup>484</sup> APRNs in South Carolina are required to pay monthly fees ranging from \$500 to \$2,000 to maintain a collaborative agreement.<sup>485</sup> These fees vary depending on liability and regional workforce shortages. These payments are designed to compensate physicians for the time spent supervising an APRN and for the cost of malpractice insurance they carry on behalf of an APRN.<sup>486</sup> At present, these fees are unregulated and tend to increase despite a reduction in the quality of collaborative input from a supervising physician.<sup>487</sup>

Addressing barriers to APRN practice can improve patient access to health care. These financial burdens divert health services from rural communities, further perpetuating existing challenges in accessing care.<sup>488</sup> Additionally, fees associated with practice agreements have been identified as a significant barrier to independent practice.<sup>489</sup> The Future of Nursing 2020-2030 report states that until all APRNs can practice to the full extent of their education and training, preventable gaps in access to care will persist.<sup>490</sup>



<sup>ss</sup> South Carolina Nurse Practice Act: The state's Nurse Practice Act outlines the rules and policies that nursing professionals must adhere to deliver high standards of care and maintain patient safety. (South Carolina Code of Laws Unannotated, Title 40, Chapter 33.)

Research has demonstrated that collaborative care between physicians and APRNs improves patient-clinician communication and the clinical management of maternal and infant care in rural areas.<sup>491</sup> As rural communities experience workforce shortages, encouraging APRNs to practice to the full extent of their education, training, and scope, while collaborating with physicians, will allow APRNs to improve access to vital health care services.<sup>492</sup>

### *Timeline*

#### **Year 1**

Explore mechanisms to subsidize fees for collaborative practice agreements.

#### **Years 3-10**

Implement subsidies to reduce the financial burden placed on APRNs to maintain collaborative agreements with physicians.

### *Supporting Organizations<sup>ii</sup>*

- AfterBirth LLC
- The Beloved Early Education & Care (BEE) Collective
- Clemson University School of Nursing
- South Carolina Christian Action Council
- South Carolina Community Health Worker Association
- South Carolina Infant Mental Health Association
- University of South Carolina College of Nursing
- Chaplains

### *Abstaining<sup>iii</sup>*

- Prisma Health
- Self Regional Healthcare



<sup>ii</sup> A supporting organization is not required to take action to execute the recommendation, but the designation means that if the recommendation is implemented the organization may be able to provide some support, whether advising, participating in the work, or contributing to implementation in another way.

<sup>iii</sup> The Taskforce process aims for consensus among all Taskforce members. However, a vote is taken when there is disagreement about a recommendation, with one vote per participating organization. Organizations have the option to abstain from voting.

# TRAINING AND EDUCATION

## RECOMMENDATION:

### *Training and Education #1*

**Increase the support available to rural pregnant and postpartum women who are experiencing or have a history of SUDs, mental health issues, trauma, and/or intimate partner violence by implementing evidence-based or evidence-informed training like Mom's IMPACTT (IMProving Access to Maternal**

**Mental Health and Substance Use Disorder Care Through Telemedicine and Tele-Mentoring) or Postpartum Support International (PSI), broadly within the prenatal and postpartum workforce.**



#### *Action Steps*

- Invest in education and tools for all members of the prenatal and postpartum workforce regarding SUDs, mental health issues, trauma, and/or intimate partner violence among their patient populations.
- Invest in evidence-informed training for rural communities when evidence-based training cannot be utilized.
- Identify and implement incentives for providers to participate in training in areas that will improve patient outcomes.
- Adequately prepare providers within the prenatal and postpartum workforce to screen, educate, and refer prenatal and postpartum women, as needed, on an individual basis.
- Offer moms in rural areas behavioral health care proactively during the prenatal stage to help them begin building relationships with counselors, social workers, psychiatric nurse practitioners, or psychiatrists prior to the postpartum stage.

#### *Context*

There are many behavioral health and external factors that have the potential to negatively impact the health and well-being of moms and babies during and after pregnancy. The second leading cause of maternal deaths from 2018-2021 in South Carolina was mental health conditions/SUDs.<sup>493</sup> As previously discussed in this report, one in every five pregnant or postpartum women are diagnosed with a mental health condition each year, and 20% of deaths in the postpartum period are due to suicide.<sup>494</sup> Also discussed earlier in this report, an SUD diagnosis during pregnancy often ignites fear of repercussions, judgment, and involvement with social services and the justice system among pregnant women.<sup>495</sup>

Another potential concern for prenatal and postpartum providers is awareness of intimate partner violence (IPV). IPV during pregnancy has the potential to cause psychological trauma and other mental health conditions, including anxiety, depression, and post-traumatic stress disorder (PTSD) as well as physical health issues.<sup>496</sup> Research has suggested a link between IPV during pregnancy and reproductive health complications as well as negative impacts to fetal health.<sup>497</sup> Complications for moms experiencing IPV can include preterm labor, premature rupture of membranes, and vaginal bleeding; fetal health complications can include low birth weight, preterm birth, fetal injury or death, and long-term health consequences for the child.<sup>498</sup> Screening for IPV during prenatal care has been recommended by the American College of Obstetricians and Gynecologists (ACOG) and other leading health organizations.<sup>499</sup> ACOG further specifies that IPV screening “should occur at the first prenatal visit, at least once per trimester, and at the postpartum checkup.”<sup>500</sup>

This recommendation focuses on providing increased support for prenatal and postpartum women experiencing a range of potential factors that impact the overall health of moms and babies.

There are several programs and/or initiatives that supporting organizations for this recommendation can refer to for planning and implementation assistance. Mom's IMPACTT, a program of MUSC, was designed to assist providers in building capacity to recognize, assess, treat, and/or refer patients with mental health conditions and/or SUDs.<sup>501, vv</sup> This program is free to providers in South Carolina.<sup>502</sup>

Additionally, Postpartum Support International (PSI) is a nonprofit organization dedicated to providing assistance to women suffering from prenatal and postpartum mood disorders.<sup>ww</sup> PSI has many resources and tools to assist with their mission including a toll-free helpline, newsletters, area support coordinators, online support groups, standardized training and education, free phone chats with experts, and multilingual resources.<sup>503</sup>

Individual health care systems will ultimately need to identify what form of continued education is accessible, feasible, and realistic for their organization. Identifying which program and/or initiative best suits each organization should be considered by administrators in collaboration with the respective prenatal and postpartum workforce.

### *Timeline*

#### **Year 1**

- Supporting and leading organizations will identify organizations and providers in rural areas willing to participate in educational training related to SUDs, mental health issues, trauma, and/or intimate partner violence.
- Organizations and individual providers should consult with administrators of Mom's IMPACTT and/or PSI for educational training opportunities in South Carolina.
- Supporting organizations will work to identify evidence-informed initiatives that are applicable to specific rural areas where evidence-based programs may not be available and/or applicable.

#### **Year 3**

- Baseline data should be reviewed to establish a way to evaluate the ongoing efforts of this recommendation's supporters and implementers.
- Continue to identify providers in the prenatal and postpartum workforce to participate in continuing education related to SUDs, mental health issues, trauma, and/or IPV.

#### **Year 5**

- Evaluate impacts on health outcomes.

### *Supporting Organizations<sup>xx</sup>*

- The Beloved Early Education & Care (BEE) Collective
- Healthy Start
- Hive Community Circle
- March of Dimes
- Medical University of South Carolina
- Postpartum Support International SC Chapter
- South Carolina Area Health Education Consortium
- South Carolina Christian Action Council
- South Carolina Community Health Worker Association
- South Carolina Department of Alcohol and Other Drug Abuse Services
- South Carolina Department of Corrections
- South Carolina Department of Health and Human Services
- South Carolina Department of Mental Health
- South Carolina Infant Mental Health Association
- University of South Carolina School of Medicine
- Community mental health centers
- Community partner violence programs
- Rural health organizations
- Faith-based health organizations

<sup>vv</sup> Additional information on Mom's IMPACTT can be found within the "Successful Programs" chapter of this report.

<sup>ww</sup> Additional information on PSI can be found within the "Successful Programs" chapter of this report.

<sup>xx</sup> A supporting organization is not required to take action to execute the recommendation, but the designation means that if the recommendation is implemented the organization may be able to provide some support, whether advising, participating in the work, or contributing to implementation in another way.





#### RECOMMENDATION:

### *Training and Education #2*

**Increase literacy of maternal and infant health among parents and families in rural areas of South Carolina to expand knowledge and awareness of resources available to meet prenatal, postpartum, and infant needs.**

#### *Action Steps*

- Seek out opportunities for health literacy among rural community members from an early age by integrating accurate and developmentally appropriate health information into childcare and education curriculums.
- Given that different age groups and learning types process information differently, share health information that is accurate and actionable, but also accessible and appropriate.
- Support and expand local efforts to provide adult health education through clinics, faith-based organizations, and community-based organizations.

#### *Context*

A lack of health literacy is one of the factors that can lead to inequalities in access to care for moms and babies in rural communities.<sup>504, yy</sup> Without health literacy, patients may not understand health information and instructions and may feel intimidated about asking follow-up, clarifying questions. However, literature on this topic often suggests that the lack of health literacy among mothers falls squarely upon their shoulders, rather than discussing the impact of a critical lack of education and access to resources (often exacerbated in rural areas) as contributing factors. Studies cited are often 10 to more than 20 years old.<sup>505</sup>

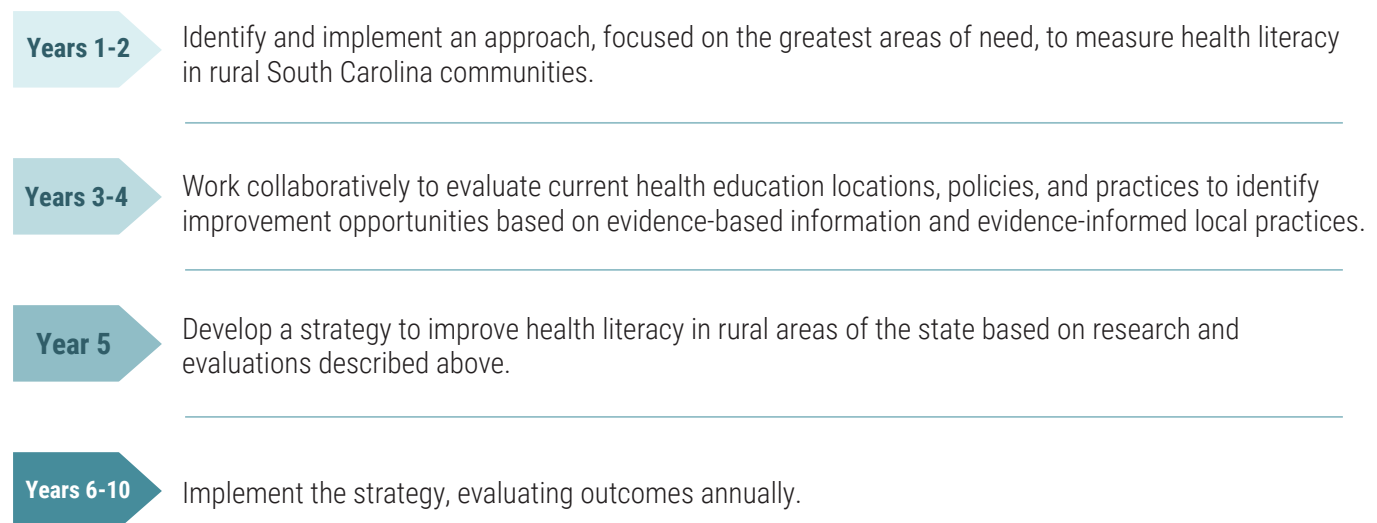
According to the Society for Women's Health Research, "A number of factors can influence personal health literacy, including an individual's socioeconomic status, education, race and ethnicity, age, and disability. It is important to note that high levels of traditional education do not necessarily mean that an individual has adequate health literacy."<sup>506</sup>

<sup>yy</sup> According to the National Institutes of Health, health literacy is "the degree to which individuals have the ability to find, understand, and use information and services to inform health-related decisions and actions for themselves and others."

Women who are pregnant or planning pregnancies are inundated with information, much of which recommends the “best” approaches to having a healthy pregnancy, baby, and postpartum experience. Navigating this information and determining what appears to be evidence-based, as well as advocating for themselves, requires a high degree of health literacy. According to the American Medical Association, when experiencing pregnancy and postpartum, “Patients face the combination of their medical conditions that existed before pregnancy, only to encounter a new array of health issues. From physical recovery to emotional well-being, the postpartum period demands careful attention and support. Despite advances in medical understanding and increased awareness, gaps in both pregnancy and postpartum care persist.”<sup>507</sup>

Helping rural community members increase their maternal health literacy also opens the door for local providers to build more trusting relationships with their patients, which is essential given the mistrust of medical providers historically cited among rural and low-income community members.<sup>508</sup>

### *Timeline*



### *Supporting Organizations<sup>zz</sup>*

- AfterBirth LLC
- The Beloved Early Education & Care (BEE) Collective
- Black Maternal Health Collective
- BlueCross BlueShield of South Carolina
- Clemson University
- Diabetes Free SC
- Family Connection of SC
- Health Evolve
- March of Dimes
- Medical University of South Carolina
- Prisma Health
- Self Regional Healthcare
- South Carolina Association of School Nurses
- South Carolina Center for Rural and Primary Healthcare
- South Carolina Christian Action Council
- South Carolina Community Health Worker Association
- South Carolina Department of Alcohol and Other Drug Abuse Services
- South Carolina Department of Health and Human Services
- South Carolina Department of Public Health
- South Carolina Department of Social Services
- South Carolina Hospital Association
- South Carolina Infant Mental Health Association
- South Carolina Office of Rural Health/Family Solutions
- University of South Carolina School of Medicine

<sup>zz</sup> A supporting organization is not required to take action to execute the recommendation, but the designation means that if the recommendation is implemented the organization may be able to provide some support, whether advising, participating in the work, or contributing to implementation in another way.

# NONMEDICAL DRIVERS OF HEALTH

## RECOMMENDATION:

### *Nonmedical Drivers of Health #1*

**Implement transportation models that work for high-risk and high-need moms and babies and replicate them in rural areas across the state. Address transportation challenges that create barriers for rural prenatal and postpartum moms and their babies who need care, which may result in limited utilization of community-based referral networks and faith-based health organizations.**

#### *Action Steps*

- Replicate successful transportation programs for use in rural communities.



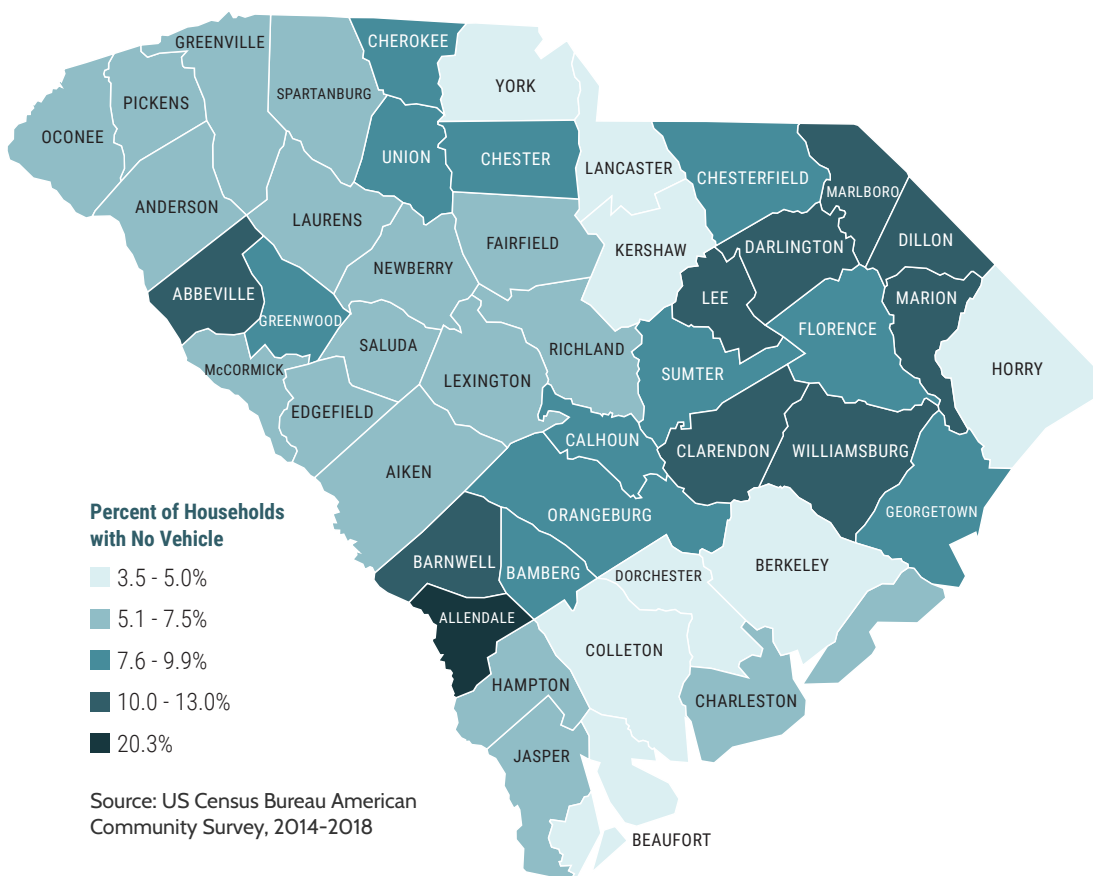
#### *Context*

Transportation for moms and infants to access prenatal, birthing, and postpartum care is an essential element of access to care. Many households have only one vehicle, and some have no vehicle. Public transportation options should be available to them.

According to the South Carolina Maternal Morbidity and Mortality Review Committee, data from 2018-2020 showed that “two out of five women traveled outside of their residential county for their delivery compared to those who traveled the shortest distance to their birthing facility.”<sup>509</sup> Of note, some women traveled outside of their counties despite the presence of a local hospital, suggesting real or perceived differences in quality of care and/or availability of providers closer to home.<sup>510</sup>

MAP 8

### Percent of Households with No Vehicle Availability by County in South Carolina



Even in counties with birthing facilities, travel time can be lengthy. For example, one Taskforce member mentioned that in large counties like Edgefield County (where Aiken Regional Medical Center is located), an individual who lives on the opposite side of the county from the medical center may face a long drive to access birthing care.<sup>511</sup> The commute time from Aiken Regional Medical Center to central Edgefield County is 40 minutes with light traffic.<sup>512</sup>

Currently, there are 34 transit systems in South Carolina (not including human service organizations like Senior Resources, which do not receive state mass transit funding).<sup>513</sup> South Carolina invests \$6 million annually for mass transit, an amount that has not increased since the early 1990s.<sup>514</sup> At that time there were seven transit systems serving South Carolinians.<sup>515</sup> The \$6 million in state funds is now divided amongst 34 systems.<sup>aaa</sup> According to the Transportation Association of South Carolina (TASC), "South Carolina (\$1.08) ranks far behind neighboring states in per capita transit investment – Georgia (\$2.16), North Carolina (\$7.00), Tennessee (\$8.97), and Florida (\$14.61)."<sup>516</sup>

Taskforce members cited the Pee Dee Regional Transportation Authority (PDRTA) as one example of a successful transportation program. The system (the 3rd largest transit system in America based on square miles, only behind New York City and Chicago) provides needed workforce transportation from rural PeeDee communities to the Grand Strand.<sup>517</sup> Urban and rural medical communities in the state also depend on PDRTA to connect health care providers and facilities across the state, and it has partnered with organizations like McLeod Health, MUSC, and 5 Federally Qualified Health Centers (FQHCs) including Care SC, Genesis, HealthCare Partners of SC, Hope Health, and Sandhills Medical.<sup>518</sup> They also provide door to door service to Florence in their six service areas and developed an internship program that connects high school students with individuals who need transportation to work.<sup>519</sup> PDRTA makes approximately 8,800 medically-related trips per month.<sup>520, bbb</sup>

## Timeline

### Year 1

Document successful transportation models currently used in rural South Carolina communities.

### Years 2-3

Invest in a pilot program that expands successful programs, such as the model used by the Pee Dee Regional Transportation Authority (PDRTA), to connect the South Carolina counties without obstetrics care to the nearest locations for prenatal, birthing, and postpartum services.

### Years 4-10

Evaluate the impact of pilot programs and increase state investment if the results are successful.

## Supporting Organizations<sup>ccc</sup>

- The Beloved Early Education & Care (BEE) Collective
- BlueCross BlueShield of South Carolina
- Diabetes Free SC
- Emergency Medical System
- Health Evolve
- Healthy Start
- MedHaul
- Modivcare
- Pee Dee Regional Transportation Authority
- South Carolina Center for Rural and Primary Healthcare
- South Carolina Christian Action Council
- South Carolina Community Health Worker Association
- South Carolina Department of Transportation
- South Carolina Hospital Association
- South Carolina Infant Mental Health Association
- South Carolina Office of Rural Health/Family Solutions
- Transportation Association of South Carolina
- University of South Carolina Center for Applied Research and Evaluation
- University of South Carolina Rural Health Research Center

<sup>aaa</sup> The South Carolina transit systems receive two thirds of their funding from the federal government, according to the Pee Dee Regional Transportation Authority (PDRTA).

<sup>bbb</sup> According to PDRTA, they make a total of 40,000 trips per month – 22% of which are medically related.

<sup>ccc</sup> A supporting organization is not required to take action to execute the recommendation, but the designation means that if the recommendation is implemented the organization may be able to provide some support, whether advising, participating in the work, or contributing to implementation in another way.





#### RECOMMENDATION:

### *Nonmedical Drivers of Health #2*

**Leverage the South Carolina Roadmap initiative, “a collaborative effort to understand and address social drivers of health in South Carolina” to address the nonmedical needs of perinatal women and babies in rural areas.<sup>521</sup>**

#### *Action Steps*

- Identify priorities through Community Health Needs Assessments.
- Strengthen partnerships between rural maternal health care providers and community-based organizations.
- Integrate Social Determinants of Health (SDoH) screening into rural maternal health care settings.
- Expand awareness and accessibility in rural communities of nonmedical support services.
- Advance policy and funding support to sustain nonmedical services.
- Establish a “no wrong door” referral loop that includes faith-based organizations and schools.
- Identify or build and invest in a closed-loop referral platform to be used statewide by health care providers, nonprofit organizations, and state agencies.
- Launch meal delivery programs similar to Meals on Wheels that deliver food to perinatal moms and babies.

#### *Context*

The South Carolina Roadmap is a collaborative effort to understand and address social drivers of health in South Carolina.<sup>ddd</sup> From January 1, 2022, to June, 2023, a vision was crafted for South Carolina’s Social Determinants of Health (SDoH) Roadmap by the Center for Applied Research and Evaluation at the University of South Carolina. Three core groups — Data, Programmatic, and Administrative — made up of local and state-level leaders representing diverse sectors created the Roadmap’s Phase 1 governance structure. Through these discussions, several SDoH policy and infrastructure solutions were identified that members felt could improve the coordination and delivery of services to individuals. Another resulting decision was to establish a formal body and infrastructure with a Common Agenda that advances the vision, discussions, and recommendations into action (known as Phase 2) over the next three years (July 2024-June 2027).

<sup>ddd</sup> <https://scroadmap.org>

## Timeline

### Year 1

- The Roadmap develops infrastructure for finalizing the Common Agenda (strategic direction and priority populations) including the formation of the Governance Council and the Community Voices Advisory Board and capacity for grant writing to pursue pilot project opportunities. The priority populations should include pregnant and postpartum women and infants in rural areas who have the most significant barriers to accessing care and services, including transportation and food access.
  - By December 2025, establish formal partnerships between maternal health care providers and community-based organizations (CBOs) that provide housing, food assistance, transportation, and/or childcare services in three rural South Carolina counties. Each provider should have at least two active partnerships to support prenatal and postpartum women.
  - By December 2025, launch a pilot program in at least three rural maternal health care clinics to implement a standardized SDoH screening tool. The tool will assess food insecurity, housing instability, and transportation needs and establish clear referral protocols to ensure prenatal and postpartum women receive timely access to necessary support services. Pilot outcomes will be evaluated to inform potential statewide expansion.
- 

### Year 3

- By December 2027, establish a coordinated referral network in five rural South Carolina counties that includes standardized referral protocols, a shared resource database, and a tracking system for referrals. Ensure that at least 75% of maternal health care providers within those counties are actively using the network to refer prenatal and postpartum women to CBOs for nonmedical support services.
  - By December 2027, train 75% of maternal health care providers in five rural counties on SDoH screening and referral protocols, ensuring consistent assessment of nonmedical needs.
- 

### Year 5

- By December 2029, establish a statewide maternal health-community partnership framework that defines standardized referral protocols, partnership agreements, and data-sharing mechanisms between maternal health care providers and CBOs. Ensure that at least 75% of rural counties in South Carolina have active participation in this framework, with formalized referral systems connecting prenatal and postpartum women to nonmedical support services.
  - By December 2029, implement electronic health record-based SDoH screening across 50% of rural maternal health care clinics, enabling systematic tracking of nonmedical needs, referrals, and service outcomes.
- 

### Year 10

- By December 2034, ensure that all rural counties in South Carolina have established formal partnerships between maternal health care providers and CBOs, with functional referral systems in place, ensuring all systems facilitate timely connections to nonmedical support services (e.g., housing, food, transportation, and childcare).
- Also by December 2034, achieve universal SDoH screening in all rural maternal health care settings, leading to a 75% increase in referrals to social support services.

## Lead Organizations

- **Center for Community Health Alignment (CCHA)–Administrative Lead:** The Administrative Lead (Admin) will support implementation goals by engaging program partners, communicating established Common Agenda goals, and facilitating connections and alignment of SDoH efforts within communities and across the state, in partnership with the Programmatic Lead. This lead is the primary convener of the Governing Council and the Community Voices Advisory Board and of the other backbone leads for implementation of the Common Agenda. In addition, this lead will partner with the other leads to garner funding that supports Common Agenda goals.
- **South Carolina Institute of Medicine and Public Health (IMPH)– Policy Lead:** The Policy Lead is responsible for informing policy changes that create financial sustainability for SDoH integration into models of care and technology/information infrastructure to improve health outcomes. The Policy Lead will conduct research and planning to inform reimbursement policy to provide financial sustainability including value-based payment arrangements, paying for care coordination activities, and integrating social needs through managed care arrangements. Additionally, based on common agenda goals, this lead will perform research and education to inform SDoH policy changes at the state and local levels, beginning with food and housing as focal areas.
- **Furman University Institute for the Advancement of Community Health (IACH)– Research and Information Lead:** The Research and Information Lead will build and align data/technical infrastructure and provide technical assistance to support common agenda goals, including facilitating dialogue around standardization of SDoH data collection and information for efforts like the State Health Improvement Plan's Results-Based Accountability (RBA) dashboard; a state investment in a single, closed-loop referral system; and the development of data-sharing agreements between health care providers and CBOs. In addition, IACH will assist in the research and evaluation activities for funded Roadmap infrastructure projects, interventions, and initiatives.
- **South Carolina Hospital Association Innovations (SCHA)– Programmatic Lead:** The Programmatic Lead will drive the implementation, expansion, and alignment of SDoH innovations, practices, and processes at the regional and local levels. This lead will inform testing SDOH innovations that build or enhance local capacity based on community needs through multi-sector collaboration, particularly between community and health care organizations. Capacity-building includes providing technical assistance and training that supports the integration of SDoH-focused processes and supports into existing programs and systems. In addition, this lead and the administrative lead will collaborate to coordinate between local and state SDoH efforts.

## Supporting Organizations<sup>eee</sup>

- Beloved Early Education & Care (BEE) Collective
- BirthMatters
- Dreams with Open Arms
- Health Evolve
- Healthy Start
- Institute for Child Success
- March of Dimes
- SC Thrive
- Self Regional Healthcare
- South Carolina Christian Action Council
- South Carolina Community Health Worker Association
- South Carolina Infant Mental Health Association

<sup>eee</sup> A supporting organization is not required to take action to execute the recommendation, but the designation means that if the recommendation is implemented the organization may be able to provide some support, whether advising, participating in the work, or contributing to implementation in another way.

# Definitions

**1115 waiver:** Section 1115 of the Social Security Act grants the Secretary of Health and Human Services authority to approve experimental, pilot, or demonstration projects that advance the objectives of the Medicaid program. These waivers provide states with flexibility to design and enhance their programs to better serve the Medicaid population.<sup>522</sup>

**Accredited Facilities:** An accredited facility is an entity that has undergone an official review process and demonstrated its ability to operate within established standards.<sup>523</sup>

**ACE per Person Lifetime Economic Burden:** The Adverse Childhood Experience (ACE) per person total annual economic burden estimate applied to the number of years from age 18 to 79 years (the current US life expectancy) and discounted at an annual rate of 3% (a standard approach for valuing future health states) to calculate the present value.<sup>524</sup>

**ACE per Person Total Annual Economic Burden:** The total annual economic burden of Adverse Childhood Experiences (ACEs) divided by ACE prevalence (the number of adults with ACEs).<sup>525</sup>

**Advanced Practice Registered Nurses (APRNs):** Registered nurses with master's and/or doctoral degrees who have received advanced education and training beyond the level of a registered nurse.<sup>526</sup>

**Adverse Childhood Experiences:** Defined as preventable, potentially traumatic events in childhood, Adverse Childhood Experiences (ACEs) are commonly categorized by the following experiences:<sup>527, 528, 529</sup>

- Domestic Violence
- Emotional, Physical, and/or Sexual Abuse
- Behavioral Health Conditions of Someone in the Household
- Food Insecurity
- Homelessness
- Economic Hardship
- Parental Separation (Including Incarceration and Divorce)

**Allied Health Professionals:** Health professionals distinct from medicine, pharmacy, and nursing, including but not limited to community health workers, doulas, and social workers.<sup>530</sup>

**Amniotic Fluid Embolism:** A rare and life-threatening complication that occurs when amniotic fluid enters a pregnant woman's bloodstream before, during, or immediately after childbirth.<sup>531</sup>

**Annual ACE Medical Spending:** Annual Adverse Childhood Experience (ACE) medical spending among adults consists of estimates for total medical spending in the United States

including Medicare, Medicaid, and other government programs; private insurance; and out-of-pocket costs.<sup>532</sup>

**Anxiety:** A feeling of fear, dread, and uneasiness. Anxiety may cause sweating, a rapid heartbeat, and restlessness.<sup>533</sup>

**Autonomous Advanced Practice Registered Nurse:** As defined by the State of Florida, an Autonomous Advanced Practice Registered Nurse (APRN) is an APRN who is not subject to physician supervision or a supervisory protocol.<sup>534</sup>

**Avoidable C-Section:** Refers to the performance of a cesarean delivery on a low-risk woman without a clinical indication of necessity.<sup>535</sup>

**Birth Facility:** A facility or other place where human births are planned to occur; this does not include the usual residence of the mother or any facility licensed as a hospital or the private practice of a physician who attends the birth.<sup>536</sup>

**Cardiomyopathy:** A disease of the heart muscle. It causes the heart to have a harder time pumping blood to the rest of the body, which can lead to symptoms of heart failure.<sup>537</sup>

**Cardiovascular Conditions:** Conditions that affect the heart and blood vessels.<sup>538</sup>

**Care Coordination:** As defined by the Agency for Healthcare Research and Quality, care coordination refers to the intentional organization of patient care activities and the information sharing process among all individuals involved in a patient's care to ultimately achieve safer and more effective care.<sup>539</sup>

**Cerebrovascular Accidents:** Also referred to as a stroke, the loss of blood flow to part of the brain, which damages brain tissue. Cerebrovascular accidents are caused by blood clots and ruptured blood vessels in the brain.<sup>540</sup>

**Certified Nurse Midwives:** Formally defined as providers "educated in graduate-level midwifery programs accredited by the Accreditation Commission for Midwifery Education (ACME) that are required to pass a national certification exam administered by the American Midwifery Certification Board (AMCB) to receive the professional designation of CNM (if they have an active registered nurse [RN] credential at the time of the certification exam) or CM."<sup>541</sup>

**Chronic Health Conditions:** As defined by the CDC, chronic diseases are conditions that persist for one year or longer and require ongoing medical attention and/or limit a person's activities of daily living.<sup>542</sup>

**Clinical Competency:** The ability to integrate knowledge, skills, attitudes, and values into a clinical situation.<sup>543</sup>



**Clinically Significant Impairment:** A clinically significant behavioral or psychological syndrome. “Clinically significant” simply means a clinician’s judgment that the distress or impairment is significant, marked, or substantial in intensity or duration.<sup>544</sup>

**Collaborative Agreement, Collaborative Practice Agreement:** These terms are used interchangeably to describe a written agreement between an Advanced Practice Registered Nurse (APRN) and a physician outlining their working relationship. This document is required for APRNs to practice in many states and provides legal protection to both parties.<sup>545</sup>

**Community Doulas:** Trained or apprenticed community birth workers who provide doula care rooted in evidence-based knowledge and shared experience.<sup>546</sup>

**Community Health Worker:** Frontline public health workers who are trusted members of and/or have an unusually close understanding of the community served. This trusting relationship enables them to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve service delivery’s quality and cultural competence. A CHW also builds individual and community capacity by increasing health knowledge and self-sufficiency through various activities such as outreach, community education, informal counseling, social support, and advocacy.<sup>547</sup>

**Complete Physical Examination:** An evaluation of a patient’s overall health, this exam focuses on preventive care to help one achieve or maintain good health; generally conducted by a primary care provider.<sup>548</sup>

**Complexity Compression:** Refers to the stress experienced by health care providers when they are assigned additional, unplanned responsibilities while also being expected to perform their normal scope of responsibilities.<sup>549</sup>

**Compounding Barriers:** Refers to situations in which social/structural barriers and nonmedical drivers of health intersect and reinforce each other, often creating significantly higher barriers for individuals experiencing overlapping disadvantages and exacerbating health disparities.<sup>550</sup>

**Comprehensive Medical History:** Intake includes the patient’s medical history, past surgical history, family medical history, social history, allergies, and medications.<sup>551</sup>

**Culturally-Centered Care:** Formally defined as care that is “focused on the patient, addressing the patient’s desires, comfort, and trust, with emphasis on cultural indicators of respect.”<sup>552</sup>

**Depression:** A persistent feeling of sadness that changes how one thinks, sleeps, eats, and acts.<sup>553</sup>

**Diabetes:** A chronic disease that occurs when an individual’s blood sugar is too high due to the pancreas not producing enough insulin or not properly using insulin, a hormone that regulates blood sugar.<sup>554</sup>

**Disability-Adjusted Life-Years (DALY):** A measure used to quantify the number of lost life-years attributed to poor health, disability, or early death. This measure is analyzed with the selected chronic health conditions among adults ( ≥ 20 years old) to estimate a total expenditure for medical spending on ACE-related conditions as well as the burden of DALYs attributed to ACEs. According to the U.S. Department of Health and Human Services, each DALY is valued at \$540,000.<sup>555</sup>

**Disparities:** Systematic, avoidable differences in health status, disease burden, and health care access between different groups of people.<sup>556</sup>

**Domestic Violence:** Refers to economic, physical, sexual, emotional, and psychological abuse of children, adults, or older adults.<sup>557</sup>

**Doula:** Trained non-clinical support professionals who provide information, assistance, and physical and emotional support to a mother and their family during prenatal, birth, and postpartum periods.<sup>558</sup>

	Community-Based Doula (CD)	Peer Recovery Doula (PRD)	Private Practice Doula	Hospital Doula
Definition	Trained and/or apprenticed community birth workers who provide doula care rooted in evidence-based knowledge and shared lived experience.	A community-based doula who has lived experience of perinatal substance use disorder and/or recovery.	An independently contracted person who provides perinatal services directly to families for a fee.	A doula who provides perinatal services as part of a hospital’s labor and delivery unit.
Who pays for the doula?	CDs are salaried employees who provide services at no cost to the participant. Programs are often funded through grants or philanthropy.	CDs are salaried employees who provide services at no cost to the participant. Programs are often funded through grants or philanthropy.	Families pay the doula directly.	Models vary; some are funded through the health care system or philanthropy, some are contracted and paid by patients.
Training and certification	CD training curriculum (60 hours) and practicum observations, plus 12-18 months of 1:1 mentorship with a seasoned CD.	CD training plus Certified Peer Support Specialist* training (46 hours) and certification.	Training length and certification vary by training provider. Often 16-20 hours, plus practicum observations and assignments.	Training length and certification vary by training provider. Often 16-20 hours, plus practicum observations and assignments.
Supervision	CDs are accountable to their employing organization and have consistent, supportive supervision with someone who understands the CD role.		Doulas are accountable to the families that hire them.	Doulas are accountable to the hospital.

**Doula Services Advisory Committee:** The Doula Services Advisory Committee was established in 2023 by the state of Tennessee to create core competencies and standards for doula services, propose multiple options for a Medicaid reimbursement plan, propose incentive-based programs, examine outcomes, and submit a report to the legislature.<sup>559</sup>

**Evidence-Based Interventions:** Policies and practices that have been proven effective through scientific research.<sup>560</sup>

**Evidence-Based Training:** A training and assessment method grounded in and supported by research demonstrating their success.<sup>561</sup>

**Fee Schedules:** A fee schedule is a predetermined list of fees that insurance providers pay to clinicians or other providers for reimbursement purposes.<sup>562</sup>

**Fee-For-Service Model:** Under the fee-for-service model, providers are paid directly for each service covered by the state, as it pertains to Medicaid.<sup>563</sup>

**Food Insecurity:** Defined in Healthy People 2023 as “a household-level economic and social condition of limited or uncertain access to adequate food.”<sup>564</sup>

**Gestational Diabetes:** Diabetes that develops during the second trimester, often between weeks 24 and 28, and resolves postpartum.

**Governance Board:** Also known as a governing board, is the highest decision-making authority within an organization, comprising a small group of directors who establish policies and provide strategic guidance to steer the organization's operations.<sup>565</sup>

**Health Literacy:** Health literacy is formally defined as “the degree to which individuals have the ability to find, understand, and use information and services to inform health-related decisions and actions for themselves and others.”<sup>566</sup>

**Hemorrhage:** Excessive bleeding from a damaged blood vessel.<sup>567</sup>

**High Risk or Emergent OB Situations:** Complications from pregnancy can occur over the course of pregnancy, during delivery, and up to one year after the end of pregnancy. Complications can include cardiovascular conditions such as cardiomyopathy; hypertensive emergencies such as preeclampsia, eclampsia, and stroke; and conditions related to maternal health such as suicide and overdose, which can be life-threatening. Patients with signs and symptoms of serious pregnancy-related complications and conditions may seek emergency care in non-obstetric settings such as EMS/911, hospital-based emergency departments, standalone emergency rooms, or urgent care facilities.<sup>568</sup> Additionally, a high-risk pregnancy is one in which the mother or baby has a higher risk of complications, generally requiring special attention and monitoring during the pregnancy and, in some circumstances, may require medical intervention before the birth.<sup>569</sup>

**Higher Acuity of Care:** Higher acuity of care refers to specialized care for patients with complex needs.<sup>570</sup>

**Hospital Birth Volume:** Annual birth volume categories are 10 to 500, 501 to 1000, 1001 to 2000, and more than 2000 births.<sup>571</sup>

**Housing Instability:** Defined in Healthy People 2030 as “having trouble paying rent, overcrowding, moving frequently, or spending the bulk of household income on housing.”<sup>572</sup>

**Hub-and-Spoke Model:** A type of health care delivery model characterized by the organization of service delivery assets around an anchor establishment designated as the “hub” and complementary secondary establishments designated as “spokes.”<sup>573</sup>

**Hypertensive Disorders Relating to Pregnancy:** Refers to high blood pressure during pregnancy, including chronic hypertension, preeclampsia-eclampsia, preeclampsia superimposed on chronic hypertension, and gestational hypertension. Hypertension is the most common medical problem encountered during pregnancy.<sup>574</sup>

**Hypervigilance:** Formally defined as the state of being highly or abnormally alert to perceived threats or danger.<sup>575</sup>

**Indigenous Populations:** Indigenous peoples are distinct social and cultural groups that share collective ancestral ties to the lands and natural resources where they live, which they occupy, or from which they have been displaced.<sup>576</sup>

**Infant Mortality:** The death of an infant before his or her first birthday. The infant mortality rate is an important marker of the overall health of a society.<sup>577</sup>

**Infection:** Infection occurs when viruses or bacteria enter the body and multiply.<sup>578</sup>

**Intergenerational:** Formally defined as “existing or occurring between generations.”<sup>579</sup>

**Interoperability:** Refers to the ability to share health information across electronic health record systems between different health care organizations.

**Intimate Partner Violence (IPV):** Abuse or aggression that occurs in a romantic relationship. An intimate partner refers to both current and former spouses and dating partners.<sup>580</sup>

**Intrapartum:** Intrapartum refers to the period of time spanning from the onset of active labor through the delivery of the placenta.<sup>581</sup>

**Labor and Delivery Units:** Units of a hospital where mothers labor and give birth. Depending on the facility, the unit may also be called an OB or obstetric unit.<sup>582</sup>

**Lactation Consultant:** A health professional who specializes in breastfeeding and in offering breast milk to infants.<sup>583</sup>

**Licensed Facility:** A health care facility that has undergone a licensure process administered by the appropriate agency, ensuring it operates in compliance with the law.<sup>584</sup>

**Licensed Physician:** An individual who is trained and licensed to practice medicine.<sup>585</sup>

**Licensed Practical Nurses:** Licensed practical nurses are health care providers who provide basic care to patients under the direct supervision of registered nurses and physicians.<sup>586</sup>

**Licensing and Accreditation Processes:** Licensing refers to the process of obtaining licensure to practice medicine in a specific state, whereas accreditation refers more broadly to the type of training and education standards used to ensure that programs meet “established standards of quality and effectiveness.”<sup>587</sup>

**Low Birthweight:** Defined by the World Health Organization as “weight at birth of less than 2500 grams (5.5 pounds).”<sup>588</sup>

**Maldistribution:** In the context of this report, provider maldistribution refers to the uneven distribution of health care providers among and within counties across the state.<sup>589</sup>

**Managed Care Organizations:** A managed care organization (MCO) is a health care company that provides the delivery of Medicaid health benefits and additional services.<sup>590</sup>

**Managed Care Program:** A program administered by a managed care organization.

**Maternal Bundled Payments:** Bundled payments combine all services provided during an episode of care into a single, fixed rate. For maternal bundled payments, pregnancy is an “episode of care,” encompassing the first prenatal visit, admission to the hospital for delivery, and the last postpartum visit.<sup>591</sup>

**Maternal Mental Health:** A pregnant or postpartum woman’s overall emotional, social, and mental well-being.<sup>592</sup>

**Maternal Mortality:** The death of a woman while pregnant or within 42 days of the termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.<sup>593</sup>

**Maternal Vulnerability Index (MVI):** The MVI is a county-level, national-scale tool used to identify where and why mothers in the United States are vulnerable to maternal morbidity and mortality. This tool integrates factors across reproductive health care, physical health, mental health and substance abuse, general health care, socioeconomic determinants, and physical environment domains to understand where women are most vulnerable to poor outcomes.<sup>594</sup>

**Maternity Care Access:** The four levels of maternity care access depicted on Map 6 on page 23 are determined by the following three measures: the number of hospitals and birth centers offering obstetric care; the number of obstetric providers (obstetrician, family medicine provider offering obstetric care, and certified nurse midwives/certified midwives per 10,000 births); and the proportion of women aged 18-64 without health insurance in the county. A county is considered to have full access if it sufficiently meets one or more of the established criteria for each level.<sup>595</sup>

**Medically Underserved Area:** The “Medically Underserved Area/Population (MUA/P)” designation is used to identify geographic areas and populations that lack adequate access to primary health care services.<sup>596</sup>

**Medically Underserved Populations:** Medically Underserved Populations (MUPs) refer to populations with limited access to primary health care services. This group of individuals may experience economic, cultural, or language barriers to health care.<sup>597</sup>

**Mental Health:** As defined by the Substance Abuse and Mental Health Services Administration, mental health refers to “our mental, emotional, psychological, and social well-being.”<sup>598</sup>

**Minoritized:** Formally defined as “the distinctive health characteristics and attributes of racial and/or ethnic minority groups, as defined by the U.S. Office of Management and Budget (OMB), that can be socially disadvantaged due in part to being subject to potential discriminatory acts.”<sup>599</sup>

**Mortality Rate:** The number of deaths from a particular cause or during a particular period of time among a particular group of people.<sup>600</sup>

**Nonmedical Drivers of Health:** Nonmedical drivers of health are “the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life.”<sup>601</sup> These may also be referred to as social determinants of health or structural determinants of health.

**Nurse Practitioners:** Nurse practitioners are a type of advanced practice registered nurse who have received advanced clinical training.<sup>602</sup>

**Obstetric (OB) Labor and Delivery Services:** Services related to the process of childbirth, from the body’s preparations through the delivery of the baby and placenta.<sup>603</sup>

**Obstetric Care:** Focuses on women’s health, particularly care and support during pregnancy, childbirth, and the postpartum period (usually until six weeks after birth). Obstetricians are doctors who specialize in this field, providing medical and surgical care to women and helping them navigate their pregnancy journey.<sup>604</sup>

**Obstetrics and Gynecologists (OB/GYNs):** As defined by the American Board of Obstetrics & Gynecology, obstetricians and gynecologists (OB/GYNs) are “physicians who, by virtue of satisfactory completion of an accredited program of graduate medical education, possess special knowledge, skills and professional capability in the medical and surgical care of women related to pregnancy and disorders of the female reproductive system. Obstetricians and gynecologists provide primary and preventive care for women and serve as consultants to other health care professionals.”<sup>605</sup>

**Obstetric (OB) Placement Score:** Developed by the South Carolina Center of Rural and Primary Healthcare at the University of South Carolina, the OB (Obstetric) Placement Score is a tool used to indicate the need for an obstetrics provider in any specific area of the state based on the following indicators: birth rate, percentage of women aged 15-50, the ratio of health care facilities to population, OBs per capita, and distance to the nearest obstetric provider. Areas with higher scores indicate a greater need for obstetric providers.<sup>606</sup>

**Payer:** In health care, payers are entities responsible for paying health care providers and can include private health insurers as well as government programs such as Medicare and Medicaid.<sup>607</sup>

**Pediatrician:** A pediatrician is a physician who is concerned primarily with the health, welfare, and development of children and is uniquely qualified for these endeavors by virtue of interest and specialized training. This training includes four years of medical school education, plus an additional year or years (usually at least three) of intensive training devoted solely to all aspects of medical care for children, adolescents, and young adults.<sup>608</sup>

**Peer Support Specialists:** People in substance use recovery who help others throughout the recovery journey. Through shared understanding, respect, and mutual empowerment, Peer Support Specialists work in treatment settings, recovery community organizations, hospitals, and schools. Peer Support Specialists connect peers with treatment options, recovery support groups, housing, transportation, and other resources to encourage recovery.<sup>609</sup>

**Perinatal Mental Health Diagnosis:** Perinatal mental health disorders are defined as psychiatric conditions that can occur at any point across the pregnancy care continuum, during pregnancy or after childbirth, and can include depression, anxiety, and postpartum psychosis.<sup>610</sup>

**Peripartum:** The period shortly before, during, and immediately after giving birth.<sup>611</sup>

**Pharmacotherapy:** Refers to the treatment or management of behavioral health conditions through the use of pharmaceutical products.<sup>612</sup>

**Physician Assistants:** Physician assistants are licensed medical professionals who hold an advanced degree and can provide direct patient care as outlined by supervising physicians and state regulations.<sup>613</sup>

**Plan-of-Care Form:** A written plan required by states that outlines the care to be provided in the event of an emergency or non-emergency abnormal condition. In Florida, this is referred to as an Emergency Care Plan, which a certified nurse midwife must submit when applying for licensure.<sup>614</sup>

**Policy Measures, Policy Efforts:** These phrases are used interchangeably to discuss laws, regulations, plans, and actions that states have taken to achieve improved health outcomes.<sup>615</sup>

**Poor Outcomes:** Relative to maternal health, poor outcomes in this context are conditions associated with maternal morbidity or those lead to maternal mortality.<sup>616</sup>

**Positive Childhood Experiences:** Positive Childhood Experiences (PCEs) include factors such as "being in nurturing, supportive relationships; living, developing, playing, and learning in safe, stable, protective, and equitable environments; having opportunities for constructive social engagement and to develop a sense of connectedness; and learning social and emotional competencies."<sup>617</sup>

**Post-Traumatic Stress Disorder (PTSD):** Post-Traumatic Stress Disorder (PTSD) is a psychiatric disorder that may occur in people who have experienced or witnessed a traumatic event, series of events, or set of circumstances. An individual may experience this as emotionally or physically harmful or life-threatening, and it may affect mental, physical, social, and/or spiritual well-being.<sup>618</sup>

**Postpartum Care:** Care during the postpartum period involving not just a single postpartum visit but a series of visits beginning with the birthing event and transitioning to ongoing general health care.<sup>619</sup>

**Postpartum Warning Signs:** The post-partum warning signs identified in the CDC's HEAR HER Campaign include a headache that won't go away or gets worse over time; dizziness or fainting; changes in vision; fever of 100.4°F or higher; extreme swelling of hands or face; thoughts of self-harming or harming the baby; trouble breathing; chest pain or a fast-beating heart; severe nausea or vomiting; severe belly pain that doesn't go away; decreased or absent baby movement during pregnancy; severe swelling, redness, or pain in the leg or arm; vaginal bleeding or fluid leaking during pregnancy; heavy vaginal bleeding or discharge after pregnancy; or overwhelming tiredness.<sup>620</sup>

**Poverty:** Refers to a measure of how an individual's or family's household income compares to the federal poverty threshold.<sup>621</sup>

**Practice Authority:** A nurse practitioner's authority to practice with or without physician oversight.<sup>622</sup>

**Preconception:** Preconception health is a term used to describe a woman's health before she becomes pregnant.<sup>623</sup>

**Predicted Probability:** Refers to the likelihood of an event occurring.<sup>624</sup>

**Pregnancy Care Continuum:** Defined as "the continuity of care that a woman receives during pregnancy, childbirth, and the postpartum period from skilled providers in a comprehensive and integrated manner."<sup>625</sup>



**Pregnancy-Related Death:** Defined as a death during pregnancy or within 1 year of the end of pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy. The death may happen because:

- The pregnancy causes a new medical (including mental) health problem.
- The pregnancy starts a chain of events that leads to death.
- The pregnancy makes an unrelated condition worse.<sup>626</sup>

**Pregnancy-Related Mortality Ratio:** The number of maternal deaths per 100,000 live births.<sup>627</sup>

**Prenatal Care:** Prenatal care is the health care a woman receives during pregnancy. Prenatal care should begin as soon as a woman knows or thinks she is pregnant. Early and regular prenatal visits are important for the health of both the mother and the fetus.<sup>628</sup>

**Preterm Birth:** Preterm birth is defined as babies born alive before 37 weeks of pregnancy are completed. There are subcategories of preterm birth, based on gestational age:

- extremely preterm (less than 28 weeks),
- very preterm (28 to less than 32 weeks), and
- moderate to late preterm (32 to 37 weeks).<sup>629</sup>

**Preterm Delivery:** Deliveries before 37 weeks of pregnancy are considered preterm or premature:

- Labor that begins before 37 weeks of pregnancy is preterm or premature labor.
- A birth that occurs before 37 weeks of pregnancy is a preterm or premature birth.
- An infant born before 37 weeks in the womb is a preterm or premature infant. (These infants are commonly called “preemies” as a reference to being born prematurely.)
- “Late preterm” refers to 34 weeks through 36 weeks of pregnancy. Infants born during this time are considered late-preterm infants, but they face many of the same health challenges as preterm infants.<sup>630</sup>

**Preterm Labor:** Preterm labor happens when regular contractions cause the cervix to open after week 20 and before week 37 of pregnancy. Preterm labor can result in a baby being born before 37 weeks of pregnancy. The earlier the delivery, the greater the health risks for the baby.<sup>631</sup>

**Primary Care and Family Medicine Providers:** As defined by the American Medical Association, “primary care physicians include family physicians, general internists, and general pediatrician.”<sup>632</sup>

**Prior Authorization:** Prior authorization is a health plan cost-control process that requires providers to qualify for payment by obtaining approval before administering a service to a patient.<sup>633</sup>

**Promotores:** Promotores are community members who share the same “language, culture, ethnicity, status, and experiences” of the residents in the communities they serve.<sup>634</sup> Promotores hold roles such as community health workers, peer educators, patient liaisons, family educators, and health advocates and work to build and maintain trust to serve as vital links between their community and both health care and social service providers.<sup>635</sup>

**Psychiatrist:** “A physician who specializes in the diagnosis, treatment, prevention, and study of mental, behavioral, and personality disorders. In the United States, education for this profession consists of four years of premedical training in college; a four-year course in medical school, the final two years of which are spent in clerkships studying with physicians in at least five specialty areas; and a four-year residency in a hospital or agency approved by the American Medical Association.”<sup>636</sup>

**Psychologist:** “An individual who is professionally trained in one or more branches or subfields of psychology. Training is obtained at a university or a school of professional psychology, leading to a doctoral degree in philosophy (PhD), psychology (PsyD), or education (EdD).”<sup>637</sup>

**Qualitative Study:** Refers to a type of research that leverages interviews and non-numerical data to explore research questions.<sup>638</sup>

**Quality Management:** Defined in health care as the administration of system design, policies, and processes that minimize, if not eliminate, harm while optimizing patient care and outcomes.<sup>639</sup>

**Quality of Care:** Quality of care refers to the degree to which health care services are delivered to increase the likelihood of desired health outcomes.<sup>640</sup>

**Rate:** A quantity, amount, or degree of something measured per unit of something else.<sup>641</sup>

**Realized Access:** Refers to the utilization of a specific health care service.<sup>642</sup>

**Referral:** A written order from a primary care physician arranging for a patient to see a specialist for a specific medical service. Referrals often serve as a vital component in a patient’s care journey, ensuring they receive the right health care services from the right people at the right time. Referrals are also required by most health insurance providers for coverage to be applied for a visit to or service from a specialist. A lack of a referral, or an incomplete referral, could result in costs being passed on directly to a patient.<sup>643</sup>

**Registered Nurses:** Formally defined as a “graduate-trained nurse who has been licensed by a state authority after qualifying for registration.”<sup>644</sup>

**Reimbursement Rates:** A reimbursement rate refers to the amount of money that Medicaid, Medicare, or a health insurance company pays to health care providers for performing specific services or providing medical supplies.<sup>645</sup>

**Remote Monitoring Equipment:** Refers to the technology used to engage in remote patient monitoring and can include “digital medical devices, such as weight scales, blood pressure monitors, pulse oximeters, and blood glucose meters.”<sup>646</sup>

**Remote Patient Monitoring:** As defined by the Agency for Healthcare Research and Quality, remote patient monitoring refers to “a type of telehealth in which health care providers monitor patients outside the traditional care setting using digital medical devices, such as weight scales, blood pressure monitors, pulse oximeters, and blood glucose meters.”<sup>647</sup>

**Residency Training:** As defined by the American Medical Association, medical residency training refers to the specialized, supervised clinical training period following the completion of medical school.<sup>648</sup>

- **Primary Care Residency Training:** A specialized training program that prepares physicians to work as generalists.
- **Internal Medicine Residency Training:** A specialized training program that prepares physicians to work as internal medicine providers.
- **Obstetrics/Gynecology Residency Training:** A specialized training program that prepares physicians to work as obstetricians and/or gynecologists.
- **Pediatrics Residency Training:** A specialized training program that prepares physicians to work as pediatricians.

**Residential Segregation:** Refers to “the spatial separation of two or more social groups within a specified geographic area, such as a municipality, a county, or a metropolitan area.”<sup>649</sup>

**Resilience:** The process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioral flexibility and adjustment to external and internal demands.<sup>650</sup>

**Rural-Urban Comparisons:** There are seven commonly used definitions for rural. It is important that when examining any type of information or data demonstrating rural-urban comparisons, to note which definition is used, as it differs from source to source. The most commonly used definitions are as follows:<sup>651</sup>

**Schedule II Medications:** Schedule II medications are prescription drugs that have a high potential for abuse, which may lead to severe psychological or physical dependence. Examples include Adderall and oxycodone.<sup>652</sup>

**Scope of Practice:** Formally defined by the American Medical Association as “activities that a person licensed to practice as a health professional is permitted to perform, which is increasingly determined by statutes enacted by state legislatures and by rules adopted by the appropriate licensing entity.”<sup>653</sup>

**Severe Maternal Morbidity:** Unexpected outcomes of labor and delivery that result in significant short- or long-term consequences to a woman’s health.<sup>654</sup>

Classification	Definition
<b>Core Based Statistical Areas (CBSAs)</b>	<p>The Office of Management and Budget (OMB) defines two types of Core Based Statistical Areas (CBSAs):</p> <ul style="list-style-type: none"> <li>• Metropolitan statistical areas have a population of 50,000 or more.</li> <li>• Micropolitan statistical areas have a population of 10,000 or more but less than 50,000.</li> </ul> <p>Each area consists of one or more counties containing the core urban area, along with adjacent counties that are tied to the urban area via commuting. Areas outside of CBSAs are considered nonmetropolitan (rural).</p> <p>Current CBSAs are defined based on the most recent U.S. Census Bureau population estimates.</p>
<b>Federal Office of Rural Health Policy (FORHP) Defined Rural Areas</b>	<p>Counties that are nonmetropolitan or micropolitan (that is, not metropolitan) are considered rural by the FORHP.</p> <p>Within metropolitan counties, FORHP identifies additional census tracts as rural based on Rural-Urban Community Area code and population density.</p>
<b>Frontier and Remote Area (FAR) Codes</b>	<p>Frontier and Remote Area (FAR) codes are a collaboration between the USDA Economic Research Service and the Federal Office of Rural Health Policy. FAR areas are defined in relation to the time it takes to travel by car to the edges of nearby Urban Areas (UAs) and Urban Clusters (UCs). FAR codes are assigned at the ZIP code-level using 2010 ZIP codes, based on a combination of population size and travel time. There are four FAR levels, with Level 4 being the most remote.</p>
<b>Rural-Urban Commuting Areas (RUCAs) by Census Tract</b>	<p>Rural-Urban Commuting Area (RUCA) codes are a collaboration between the USDA Economic Research Service and the Federal Office of Rural Health Policy. This definition uses daily commuting patterns to understand a location’s level of rurality.</p> <p>RUCA codes are assigned at the census-tract and zip-code level based on population density, urbanization, and daily commuting patterns. The primary classification uses 10 codes (1-10) to identify metropolitan, micropolitan, small town, and rural commuting areas, based on the primary flow of commuting. Secondary commuting flow is used to further subdivide these 10 codes.</p>
<b>Rural-Urban Continuum Codes (RUCCs)</b>	<p>Rural-Urban Continuum Codes (RUCCs) are assigned at the county level by the USDA Economic Research Service. RUCCs are numeric, 1-9. Codes 1-3 are assigned to metropolitan counties based on population. Codes 4-9 identify different types of rural counties based on their degree of urbanization and adjacency to metropolitan counties.</p>
<b>Urban Influence Codes (UICs)</b>	<p>Urban Influence Codes (UICs) are assigned at the county level by the USDA Economic Research Service. UICs are numeric, 1-9. Codes 1 and 4 are assigned to metropolitan counties based on population. Codes 2-3 and 5-9 identify different types of rural counties based on their micropolitan or non-core status and adjacency to more populous counties.</p>
<b>Census 2020 County Percent Rural</b>	<p>The U.S. Census Bureau identifies geographic areas as urban or rural, based on population density.</p>

**Social Worker:** Professionals who assist people by helping them cope with issues in their everyday lives, deal with their relationships, and solve personal and family problems.<sup>655</sup>

**Socioeconomic Barriers:** Refers to barriers related to education, income, and employment that prevent individuals from accessing financial, educational, social, and health care resources.<sup>656</sup>

**South Carolina Nurse Practice Act:** The state's Nurse Practice Act outlines the rules and policies that nursing professionals must adhere to in order to deliver high standards of care and maintain patient safety.<sup>657</sup>

**Southern States:** As defined by the Census Bureau, the South Region includes the South Atlantic division composed of Delaware, the District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia; the East South Central division composed of Alabama, Kentucky, Mississippi, and Tennessee; and the West South Central division composed of Arkansas, Louisiana, Oklahoma, and Texas.<sup>658</sup>

**Specialty Care:** As defined by the Centers for Medicare and Medicaid Services, specialty care describes the “area of health care focused on a specific area of medicine or specific types of symptoms and conditions.”<sup>659</sup>

**Stress Response System:** Defined as how the body responds to perceived threats.<sup>660</sup>

**Subsidize/Subsidy:** To partially cover the cost of something or financial assistance provided to support or encourage a specific activity or service.<sup>661</sup>

**Substance Use Disorder (SUD):** Disorders that occur when the recurrent use of alcohol and/or drugs causes clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school, or home.<sup>662</sup>

**Systematic Fragmentation:** Refers to the siloed activity and lack of coordination among clinical and social providers.<sup>663</sup>

**Targeted Intervention:** Refers to the tailoring of interventions to meet the needs of a specific group or population.

**Telehealth:** Telehealth refers to the use of communication technologies to provide health care at a distance. It often involves remote monitoring of vital signs, such as blood pressure and heart rate, as well as conducting consultations among physicians.<sup>664</sup>

**Thrombotic Embolism:** The blocking of a blood vessel by a particle that has broken away from a blood clot at its site of formation.<sup>665</sup>

**Thrombotic pulmonary embolism:** Occurs when a blood clot breaks loose and travels through the bloodstream to the lungs.<sup>666</sup>

**Trauma:** Trauma is an emotional response to a terrible event such as an accident, crime, natural disaster, physical or emotional abuse, neglect, experiencing or witnessing violence, the death of a loved one, war, and more.<sup>667</sup>

**Trimester:** Health care providers refer to pregnancy in three segments, called trimesters. The three trimesters of pregnancy are as follows: <sup>668</sup>

- 1st trimester: Week 1 to Week 12
- 2nd trimester: Week 13 to Week 28
- 3rd trimester: Week 29 to Week 40

**Universal Screening:** The systematic administration of an assessment. In the case of maternal mental health screening, universal screening involves the health care system implementing standardized protocols and systems to screen all who are pregnant or in the postpartum period.<sup>669</sup>

**Vulnerable:** Used to describe populations that are at increased risk for adverse health outcomes and health disparities.<sup>670</sup>

**Wrap-Around Services:** Defined by the American Psychological Association as “a philosophy of care and service provision characterized by a planning process involving a focal person, concerned family members, and service providers.”<sup>671</sup>

# Appendix

TABLE 1

## South Carolina Hospitals by Perinatal Regionalization System Designation, 2025

Name of Facility	Location City	Location Zip	County/ Ownership Type	General Beds	Trauma Center	Trauma Center Level	Description	Perinatal	Parinatal Level	Perinatal Level Description	Critical Access Hospital
<b>McLeod Health Clarendon</b>	MANNING	29102-3153	Clarendon / Non-Profit Corporation	81	N			Y	1	LEVEL I	N
<b>McLeod Loris</b>	LORIS	29569-2827	Horry / Non-Profit Corporation	50	N			Y	1	LEVEL I	N
<b>McLeod Medical Center Dillon</b>	DILLON	29536-2509	Dillon / Non-Profit Corporation	79	N			Y	1	LEVEL I	N
<b>Newberry County Memorial Hospital</b>	NEWBERRY	29108-2932	Newberry / County	90	N			Y	1	LEVEL I	N
<b>Piedmont Medical Center Fort Mill</b>	FORT MILL	29715	York / Corporation	100	N			Y	1	LEVEL I	N
<b>Prisma Health Laurens County Hospital</b>	CLINTON	29325-7527	Laurens / Corporation	76	N			Y	1	LEVEL I	N
<b>Roper St Francis Berkeley Hospital</b>	SUMMERVILLE	29486	Berkeley / Corporation	50	N			Y	1	LEVEL I	N
<b>Aiken Regional Medical Centers</b>	AIKEN	29801-6302	Aiken / Corporation	197	N			Y	2	LEVEL II	N
<b>Anmed Medical Center</b>	ANDERSON	29621-5793	Anderson / Non-Profit Corporation	495	Y	II	LEVEL II	Y	2	LEVEL II	N
<b>Carolina Pines Regional Medical Center</b>	HARTSVILLE	29550-4399	Darlington / Limited Liability	116	Y	III	LEVEL III	Y	2	LEVEL II	N
<b>Conway Hospital</b>	CONWAY	29526-9142	Horry / Non-Profit Corporation	210	Y	III	LEVEL III	Y	2	LEVEL II	N
<b>Grand Strand Medical Center</b>	MYRTLE BEACH	29572-4611	Horry / Ltd. Liability	357	Y	I	LEVEL I	Y	2	LEVEL II	N
<b>Lexington Medical Center</b>	WEST COLUMBIA	29169-4810	Lexington / Non-Profit Corporation	607	Y	III	LEVEL III	Y	2	LEVEL II	N
<b>MUSC Health Florence Women's Pavilion</b>	FLORENCE	29505-6047	Florence /	20	N			Y	2	LEVEL II	N
<b>MUSC Health Lancaster Medical Center</b>	LANCASTER	29720	Lancaster /	199	N			Y	2	LEVEL II	N



Name of Facility	Location City	Location Zip	County/ Ownership Type	General Beds	Trauma Center	Trauma Center Level	Description	Perinatal	Parinatal Level	Perinatal Level Description	Critical Access Hospital
<b>MUSC Health Orangeburg</b>	ORANGEBURG	29118	Orangeburg / State	247	N			Y	2	LEVEL II	N
<b>Prisma Health Baptist Parkridge</b>	COLUMBIA	29212-1760	Richland / Limited Liability	76	N			Y	2	LEVEL II	N
<b>Prisma Health Greer Memorial Hospital</b>	GREER	29650-2400	Greenville / Corporation	82	N			Y	2	LEVEL II	N
<b>Prisma Health Oconee Memorial Hospital</b>	SENECA	29672-9443	Oconee / Corporation	169	N	I	LEVEL I	Y	2	LEVEL II	N
<b>Prisma Health Patewood Hospital</b>	GREENVILLE	29615-3570	Greenville / Corporation	72	N			Y	2	LEVEL II	N
<b>Prisma Health Tuomey Hospital</b>	SUMTER	29150-4983	Sumter / Non-Profit Corporation	283	N			Y	2	LEVEL II	N
<b>St Francis-Eastside</b>	GREENVILLE	29615-4812	Greenville / Corporation	93	N			Y	2	LEVEL II	N
<b>Tidelands Waccamaw Community Hospital</b>	MURRELLS INLET	29576-5033	Georgetown / Non-Profit Corporation	124	N			Y	2	LEVEL II	N
<b>Piedmont Medical Center</b>	ROCK HILL	29732-1158	York / Corporation	262	Y	III	LEVEL III	Y	3	LEVEL III	N
<b>Prisma Health Baptist</b>	COLUMBIA	29220	Richland / Limited Liability	287	N			Y	3	LEVEL III	N
<b>Self Regional Healthcare</b>	GREENWOOD	29646-3860	Greenwood / County	326	Y	III	LEVEL III	Y	3	LEVEL III	N
<b>Summerville Medical Center</b>	SUMMERVILLE	29485-8104	Dorchester /	174	N			Y	3	LEVEL III	N
<b>McLeod Regional Medical Center of the PeeDee</b>	FLORENCE	29506-2617	Florence / Non-Profit Corporation	517	Y	II	LEVEL II	Y	R	LEVEL III REGIONAL CENTER	N
<b>Prisma Health Greenville Memorial Hospital</b>	GREENVILLE	29605-5611	Greenville / Corporation	746	Y	I	LEVEL I	Y	R	LEVEL III REGIONAL CENTER	N
<b>Prisma Health Richland</b>	COLUMBIA	29203-6897	Richland / Limited Liability	579	Y	I	LEVEL I	Y	R	LEVEL III REGIONAL CENTER	N
<b>Spartanburg Medical Center</b>	SPARTANBURG	29303-3072	Spartanburg / District	484	Y	I	LEVEL I	Y	R	LEVEL III REGIONAL CENTER	N

Source: South Carolina Department of Public Health. (2025). Health Facilities Locator Application.

FIGURE 1

## Perinatal Mental Health Conditions AIM Bundle Implementation Considerations<sup>fff</sup>

Implementation considerations outlined within the “Perinatal Mental Health Conditions” bundle include the need to:



**Develop workflows** for integrating mental health care into obstetric care during pregnancy through the postpartum period including provision of pharmacotherapy when indicated.



**Identify mental health screening tools** to be made available in every clinical setting where obstetric patients may present.



**Educate clinicians, office staff, patients, and patients’ designated support networks** on optimal care across the perinatal mental health pathway including prevention, detection, assessment, treatment, monitoring, and follow-up best practices.



**Develop and maintain a set of referral resources** and communication pathways between obstetric providers, community-based organizations, and state and public health agencies to address patient needs, including social drivers of mental and physical health.



**Obtain individual and family mental health history** at intake, with review and update as needed.



**Screen for depression and anxiety** at the initial prenatal visit, later in pregnancy, and at postpartum visits.



**Screen for bipolar disorder** before initiating pharmacotherapy for anxiety and depression.



**Screen for structural and social drivers of health** that may impact clinical recommendations or treatment plans and provide links to resources.



**Initiate an evidence-based, patient-centered response protocol** that is tailored to illness severity, and is strength-based, culturally relevant, and responsive to the patient’s values and needs.



**Establish care pathways** that facilitate coordination and follow-up among multiple providers throughout the perinatal period for pregnant and postpartum persons referred to mental health treatment.



**Identify and monitor data** related to perinatal mental health care, with disaggregation by race and ethnicity at a minimum, to evaluate disparities in processes of care.



**Convene inpatient and outpatient providers** in an ongoing way to share successful strategies and identify opportunities for prevention and evaluation of undesired outcomes related to perinatal mental health.



**Include each pregnant and postpartum person** and their identified support network as respected members of and contributors to the multidisciplinary care team.<sup>672</sup>

<sup>fff</sup> Source: Alliance for Innovation on Maternal Health. (2022). Perinatal Mental Health Conditions. [https://saferbirth.org/wp-content/uploads/R1\\_AIM\\_Bundle\\_PMHC-EID.pdf](https://saferbirth.org/wp-content/uploads/R1_AIM_Bundle_PMHC-EID.pdf).



FIGURE 2

## Care for Pregnant and Postpartum Individuals with Substance Use Disorder AIM Bundle Implementation Considerations<sup>999</sup>

Implementation considerations outlined within the “Care for Pregnant and Postpartum Individuals with Substance Use Disorder” bundle include the need to:



**Provide education** to pregnant and postpartum individuals related to substance use disorder (SUD), naloxone use, harm reduction strategies, and care of infants with in-utero substance exposure.



**Provide clinical and non-clinical staff education** on optimal care for pregnant and postpartum individuals with SUD, including federal, state, and local notification guidelines for infants with in-utero substance exposure and comprehensive family care plan requirements.



**Engage appropriate partners** to assist pregnant and postpartum individuals and families in the development of family care plans, starting in the prenatal setting.



**Establish a multidisciplinary care team** to provide coordinated clinical pathways for individuals experiencing SUDs.



**Develop and maintain a set of referral resources** and communication pathways between obstetric providers, community-based organizations, and state and public health agencies to enhance services and supports for pregnant and postpartum families for social determinants of health needs, behavioral health supports, and SUD treatment.



**Screen all pregnant and postpartum individuals for SUDs** using validated self-reported screening tools and methodologies during prenatal care and during the delivery admission.



**Screen each pregnant and postpartum [individual] for medical and behavioral health needs** and provide links to community services and resources.



**Assist pregnant and postpartum individuals with SUD** to receive evidence-based, individual-directed SUD treatment that is welcoming and inclusive in an intersectional manner, discuss readiness to start treatment, as well as referral for treatment with a warm hand-off and close follow-up.



**Establish specific prenatal, intrapartum and postpartum care pathways** that facilitate coordination among multiple providers during pregnancy and the year that follows.



**Offer comprehensive reproductive life planning discussions and resources.**



**Identify and monitor data related to SUD treatment** and care outcomes and process metrics for pregnant and postpartum individuals with disaggregation by race, ethnicity, and payor as able.



**Convene inpatient and outpatient providers and community stakeholders**, including those with lived experience in an ongoing way, to share successful strategies and identify opportunities to improve outcomes and system-level issues.



**Engage in open, transparent, and empathetic communication** with the pregnant and postpartum person and their identified support person(s) to understand diagnosis, options, and treatment plans.



**Integrate pregnant and postpartum individuals** as part of the multidisciplinary care team to establish trust and ensure informed, shared decision-making that incorporates the pregnant and postpartum person's values and goals.



**Respect the pregnant and postpartum person's right of refusal** in accordance with their values and goals.<sup>673</sup>

<sup>999</sup> Source: Alliance for Innovation on Maternal Health. (2022). Care for Pregnant and Postpartum People with Substance Use Disorder. [https://saferbirth.org/wp-content/uploads/CPSPUD\\_EID\\_Final\\_V1\\_2022.pdf](https://saferbirth.org/wp-content/uploads/CPSPUD_EID_Final_V1_2022.pdf).

## Other Programmatic Efforts of Note

As mentioned in the “Successful Stories” section of this report, several initiatives and programs related to maternal and infant health operate in South Carolina. Although not comprehensive, the following initiatives and programs either lack associated outcome data or are in the process of collecting it and were therefore not included in that section. However, they are worth noting here as potential success stories.

### *BEE Collective*

The Beloved Early Education and Care Collective (BEE Collective) is a program in Berkeley County established in 2017 with the mission to increase social-emotional development outcomes of newborn children to six years old through an integrated mental health framework.<sup>674</sup> The BEE Collective launched efforts to tackle exclusion and expulsion within early learning environments, which disproportionately harm children of color and children with disabilities. Additionally, the organization provides doula services, reproductive health information, and parent groups to support family resilience.<sup>675</sup> A primary goal of the BEE Collective is to reduce mortality and morbidity among moms and babies in the Lowcountry of South Carolina.<sup>676</sup> This organization recruits, trains, and supports birth workers in a way that honors the traditions and wisdom of “ancestor granny-midwives that historically served the communities of the Lowcountry.”<sup>677</sup>

### *Black Doula Grant Program*

Prisma Health launched the Black Doula Grant Program as a pilot initiative in 2023 to fund doulas for 100 Black women.<sup>678</sup> The program aimed to assess the impact of connecting Black women with doulas on patient outcomes such as postpartum depression, Cesarean rates, and pre-term births.<sup>679</sup> In 2024, the program funded doulas for an additional 100 Black women, followed by 135 more in 2025.<sup>680</sup> Data collection is ongoing, and results are expected to be released later this year.<sup>681</sup>

### *Healing Equity Advocacy & Respect for Mamas*

Healing Equity Advocacy & Respect for Mamas (Hear 4 Mamas) is an ongoing study at the Medical University of South Carolina (MUSC) that is adapted from Listening to Women and Pregnant and Postpartum People to include Alliance for Innovation on Maternal Health (AIM) safety bundles.<sup>682</sup> This study aims to determine whether a program for new moms can “improve detection of complications after delivery and help women get medical care quickly and easily.”<sup>683</sup> Participants are surveyed at enrollment and three additional times and followed for one year after delivery.<sup>684</sup> Participants receive postpartum discharge transition information covering a wide range of topics, including a summary of birth events; emergent and urgent warning signs and symptoms and who to contact; postpartum care visits; birth spacing and contraception; breastfeeding; wellbeing; mental health; substance use; social determinants of health; physical recovery; sleep and fatigue; sexual health; physical activity; medications; and chronic conditions.<sup>685</sup>



## *The South Carolina Community Health Worker Ambassadors Program*

The Center for Community Health Alignment (CCHA) and the South Carolina Community Health Worker Association (SCCHWA) partnered to relaunch the South Carolina Community Health Worker Ambassador Program called the SC CHW Ambassadors.<sup>686</sup> The SC CHW Ambassadors initiative works to advance the South Carolina community health workforce and aims to engage a diverse group to represent and promote CHWs statewide.<sup>687</sup>



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