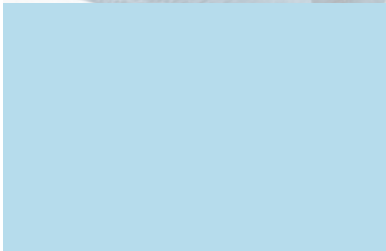
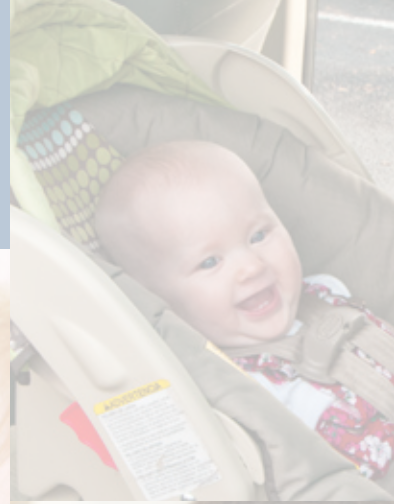




Healthy Mothers, Healthy Babies

Assessment Report





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- Choose Well
- Family Connection
- Family Solutions of the Low Country
- Greenville Health Systems
- Greenwood Genetic Center
- March of Dimes, South Carolina Chapter
- Mothers’ Milk Bank of South Carolina
- New Morning Foundation
- National Association of Social Workers, South Carolina Chapter
- Nurse-Family Partnership
- PASOs
- Pendleton Place
- South Carolina Breastfeeding Coalition
- South Carolina Campaign to Prevent Teen Pregnancy
- South Carolina Center for Fathers and Families
- South Carolina Coalition Against Domestic Violence and Sexual Assault
- South Carolina Coalition for Healthy Families
- South Carolina Department of Health and Environmental Control
- South Carolina Department of Health and Human Services
- South Carolina First Steps
- South Carolina Head Start Collaboration Office
- South Carolina Institute of Medicine and Public Health
- South Carolina Office of Rural Health
- Tell Them
- United Way of the Midlands
- University of South Carolina Sexual Assault and Violence Intervention and Prevention



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EXECUTIVE SUMMARY

The 2014 South Carolina infant mortality rate was the lowest on record at 6.5 deaths per 1,000 live births, which represents a decrease from the previous year by 5.8%. This lower rate is largely due to a decrease in very low birth weight births in S.C. and improved survival among very low birth weight infants¹. This success can be attributed to the work of maternal and child health stakeholders and partners across the state, yet there is still more work to be done.

In October 2013, [Healthy Mothers, Healthy Babies: S.C.'s Plan to Reduce Infant Mortality and Premature Births](#) was released. The [Healthy Mothers, Healthy Babies Plan](#) outlines the major causes of infant deaths in S.C. and key populations. The plan puts forth five major recommendations and 34 strategies to reach its overall goal of reducing infant mortality and premature birth.

The Healthy Mothers, Healthy Babies (HMHB) Assessment began in January 2015 in order to further implement the HMHB framework and identify key partners across the state. Interviews were conducted with 65 stakeholders representing 27 maternal and child health (MCH) service providers, public and private agencies, and community-based organizations. In addition, MCH state priorities from the 2015 Title V Block Grant Needs Assessment were supplemented in the analysis process to provide a more comprehensive understanding.

There are two components to the HMHB Assessment. The first component, the [S.C. Maternal and Child Health Planning and Partnership Resource Guide](#) provides detailed information gathered from stakeholder interviews. It highlights goals, key partners, promising practices, and accomplishments within each strategy put forth in the original HMHB Plan. It serves as a tool for collaboration to better inform and equip MCH partners across S.C.

The second component of the HMHB Assessment is this [Healthy Mothers, Healthy Babies Assessment Report](#). This report provides an overview and summary of the HMHB Assessment process and methodology. It also briefly describes considerations and activities of each of the HMHB strategies. This document serves as a companion to the [S.C. MCH Planning and Partnership Resource Guide](#) and orients MCH partners to the HMHB Assessment.

The primary purpose of the HMHB Assessment was to identify current partners and activities, goals and progress, and highlight successes and areas for improvement for MCH services as discussed within the HMHB Plan. It was designed to facilitate collaboration among stakeholders and improve the quality of MCH services throughout the state. This assessment allows decision makers to better understand strengths, challenges, and gaps in MCH services in S.C.

HMHB strategies were reviewed and organized into three categories based on stakeholder interviews. Each strategy is discussed in brief detail in the discussion section of this [Healthy Mothers, Healthy Babies Assessment Report](#).

1. Well-Established Activities – sustained or routine programs and services. These strategies are prime candidates for quality improvement activities.
2. Current Active Engagements - considerable ongoing activities or pilot projects. These strategies are prime candidates for scaling up, expanded reach, or performance management.
3. Opportunities for Future Activity - gaps or areas for improvement. These strategies are prime candidates to assess needs or identify potential partners and interventions.

Well-Established Activities include: the regional perinatal system; reducing non-medically indicated inductions and cesarean sections prior to 39 weeks gestation; smoking cessation among pregnant women; eliminating preventable harm to mothers and babies through newborn screenings, child wellbeing and abuse prevention, and domestic violence and intimate partner violence prevention; increasing utilization of folic acid and/or multivitamins to impact birth defects; critical congenital heart defect screenings in birthing hospitals; and developing data systems to understand and inform efforts.

Current Active Engagements include: streamlining the Medicaid application process; improving pregnancy spacing through increased access to Long-Acting Reversible Contraceptives (LARCs); reducing barriers to accessing care through telemedicine and community health workers; using social media to deliver health care messages and access to resources; eliminating preventable harm to mothers and babies through evidence-based clinical care; promoting safe sleep environments; promoting and expanding CenteringPregnancy programs; strengthening, supporting, and promoting breastfeeding efforts; increasing access to home visitation programs for pregnant women and infants; promoting oral health care for pregnant women; reducing teen birth rates through evidence-based programs and increasing access to and utilization of LARCs; increasing provider screening and referrals; and eliminating disparities and promoting health equity.

Opportunities for Future Activity include: providing interconception care coordination, especially for women with previous adverse pregnancy outcomes; increasing utilization of immunizations among pregnant women; providing educational materials about 17P; developing education programs for obstetric pregnancy medical homes; providing interconception health care, especially for women with chronic diseases and adverse pregnancy outcomes; increasing the number of women who attend postpartum visits; increasing family support services, and engaging men and other family members.

It is important to note that data collection occurred from January to August 2015 and may not accurately represent current activities. Results and findings of this assessment are not exhaustive and do not include all MCH activities or partners across the state. MCH partners not included in this assessment are welcome to contact the S.C. Department of Health and Environmental Control (DHEC) Maternal and Child Health (MCH) Bureau for inclusion in future assessments.

The HMHB Assessment is intended for use by public health, healthcare, and community decision makers in S.C. Findings and recommendations for future action from this assessment can be used to provide recognition and support for outstanding programs and activities, improve programmatic reach and impact on target communities, improve quality of existing services and programs, and provide support for innovative efforts.



BACKGROUND

Maternal and child health (MCH) is especially important because it not only affects the lives of individuals today, but also generations to come. MCH outcomes are an indicator of the population's overall health. Infant mortality and preterm births are significant public health concerns that provide a proxy measurement for MCH overall.

According to the Centers for Disease Control and Prevention, the rate of infant mortality in the United States in 2013 was 6.0 deaths within the first year of life per 1,000 live births¹. In 2014, S.C.'s infant mortality rate was higher than the most recent national rate with 6.5 deaths per 1,000 live births², which is higher than the Healthy People 2020 leading health indicator goal of reducing infant mortality to 6.0 deaths per 1,000 live births³. The infant mortality rate in S.C. among Black women of 10.2 per 1,000 live births was over twice that of their White counterparts at 4.7 per 1,000 live births.⁴

The rate of preterm birth, which is birth at less than 37 weeks gestation, in S.C. in 2014 was 10.8% . The risk of premature birth among Black women in S.C. is 47% greater than among White women, with the rate of prematurity among Black women at 13.8%, compared to the rate among White women at 9.4%.

There is much work to be done to improve MCH outcomes in S.C., especially in regards to reducing the rate of infant mortality and preterm birth among racial minority populations, which can have serious impacts on the future of individuals, families, and society overall.



1 http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_09.pdf

2 http://www.scdhec.gov/Health/docs/BiostatisticsPubs/IMR_2013_highlights.pdf

3 <http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives>

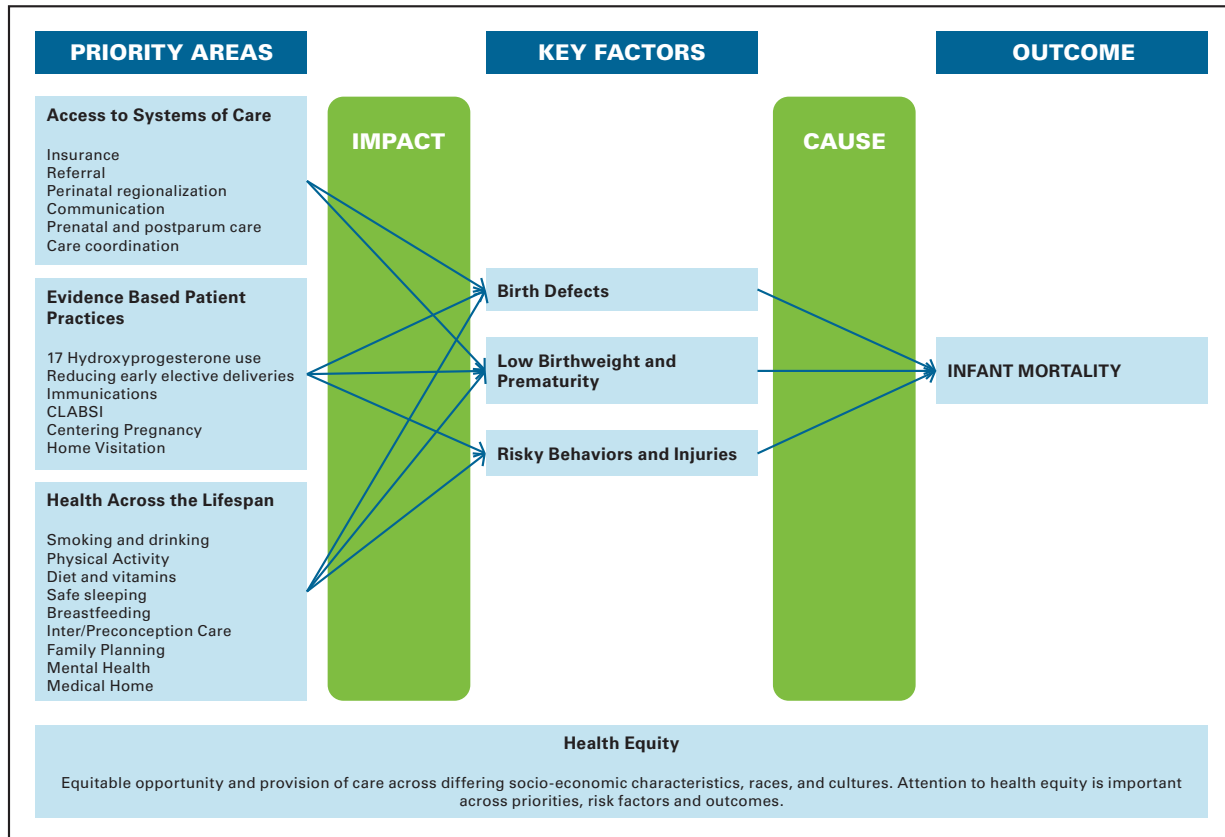
4 <http://scangis.dhec.sc.gov/scan/CommunityProfile/output.aspx>

INTRODUCTION

[Healthy Mothers, Healthy Babies: S.C.'s Plan to Reduce Infant Mortality and Premature Births](#) was first released in October 2013 by the South Carolina Department of Health and Environmental Control (S.C. DHEC) and its overall goal is to reduce infant mortality and premature birth in S.C. The Healthy Mothers, Healthy Babies (HMHB) Plan outlines the major causes of infant deaths in S.C. and key populations. It provides five major recommendations:

1. Improve Access to Systems of Care for Women Before, During and After Pregnancy
2. Promote Use of Evidence-Based Patient Practices by Health Care Providers and Families
3. Promote Health across the Lifespan
4. Develop Data Systems to Understand and Inform Efforts
5. Eliminate Disparities and Promote Health Equity.

Together, these five major recommendations are comprised of 34 strategies and can be found in [Appendix A](#). The HMHB Plan is organized according to a conceptual model that demonstrates how the identified priority areas influence risk factors and health outcomes, as reproduced below.



In an effort to reach its goal, an assessment of the HMHB Plan began in January 2015. The primary purpose of this assessment was to identify current partners and activities, goals and progress, and highlight successes and areas for improvement for MCH services as discussed within the HMHB Plan. The HMHB Assessment was designed to facilitate the implementation of the HMHB Plan and improve the quality of MCH services. The focus is to gain and communicate a greater understanding of major partners and ongoing activities, as well as facilitate collaboration among stakeholders. The HMHB Assessment allows decision makers to better understand strengths, challenges, and gaps in MCH services in S.C.

The HMHB Assessment is divided into two major components:

1. The [S.C. Maternal and Child Health Planning and Partnership Resource Guide](#), provides detailed information found in stakeholder interviews and identifies goals, key partners, promising practices, challenges, and accomplishments within each strategy of the original HMHB Plan. It serves as a tool for collaboration to better inform and equip MCH partners across the state.
2. This document, the [Healthy Mothers, Healthy Babies Assessment Report](#), provides a narrative overview and summary of the HMHB Assessment process and methodology. It provides a broad understanding of the HMHB strategies according to different categories that identify strengths and gaps in MCH across S.C. This document serves as a companion to the [S.C. MCH Planning and Partnership Resource Guide](#) and orients partners to the HMHB Assessment.

METHODOLOGY

Semi-structured interviews were conducted with 65 representatives from 27 MCH service providers, public and private agencies, and community-based organizations. See [Appendix B](#) for a full list of partners interviewed. Stakeholder interviews were focused on gaining a greater understanding of current activities that aligned with the recommendations and strategies put forth in the original HMHB Plan.

Findings from the 2015 Title V Block Grant Needs Assessment were also included in the analysis to supplement stakeholder interviews and provide a more comprehensive assessment of MCH services and programs. The list of the Title V selected state priorities and alignment with national performance measures can be found in [Appendix C](#).

It is important to note that the original HMHB Plan and 2015 Title V Needs Assessment were designed for different purposes. The HMHB Plan is focused specifically on efforts to reduce infant mortality and preterm birth, whereas the Title V Needs Assessment has a broader scope of identifying overall MCH needs. The HMHB Plan begins to identify overall activities and strategies to reach its goal, whereas the Title V Needs Assessment is more focused on health outcomes and perceived service needs. Furthermore, the 2015 Title V Block Grant has specific mandates for funding and resource allocation for children with special health care needs. Children with special health care needs, however, were not specifically mentioned in the HMHB Plan and thus are not discussed in the HMHB Assessment.

The HMHB Assessment included reviewing and compiling stakeholder interview data and supplemental Title V Needs Assessment findings. As a result, the 34 original HMHB strategies were organized into three main categories:

1. [Well-Established Activities](#) – sustained or routine programs and services. These strategies are prime candidates for quality improvement activities.

2. Current Active Engagements - considerable ongoing activities or pilot projects. These strategies are prime candidates for scaling up, expanded reach, or performance management.
3. Opportunities for Future Activity - gaps or areas for improvement. These strategies are prime candidates to assess needs or identify potential partners and interventions.

RESULTS

HMHB strategies are discussed individually as opposed to within the context of their respective recommendations, with the exception of two recommendations. Due to their overarching nature, Develop Data Systems to Understand and Inform Efforts (Recommendation D), and Eliminate Disparities and Promote Health Equity (Recommendation E), are not broken down into the individual strategies listed. These two recommendations should be embedded in all MCH interventions to ensure they are reaching populations most at need in an effective and culturally appropriate manner.

Several parallel themes emerged from both the 2015 Title V Needs Assessment and the HMHB Assessment. These included: smoking and exposure to tobacco use; access to risk appropriate care through the regional perinatal system; preterm birth reduction; safe sleep practices; breastfeeding promotion and support; and social determinants of health.

Increasing family support services / engaging men and families emerged from the qualitative research component of the 2015 Title V Needs Assessment and was not included in the original HMHB Plan. Therefore, it was added as its' own strategy for the purposes of the HMHB Assessment. Other emergent themes from the Title V Needs Assessment were not included in this analysis because they were broader than the scope of the HMHB strategies and are likely addressed indirectly through the activities described here.

Final HMHB Assessment strategies are included in the charts below according to the three categories and are described in further detail within the discussion section of this report. The original HMHB recommendation and strategy identification number is included for reference to its description in the original [Healthy Mothers, Healthy Babies Plan](#) and [S.C. Maternal and Child Health Planning and Partnership Resource Guide](#).

Well-Established Activities

(routine or sustained activities; candidates for quality improvement)

Regional Perinatal System (A-1)

Reduce non-medically indicated inductions and cesarean sections prior to 39 weeks gestation (B-1)

Smoking cessation among pregnant women (B-2)

Eliminate preventable harm to mothers and babies; newborn screenings (B-3)

Eliminate preventable harm to mothers and babies; child wellbeing and abuse prevention (B-3)

Eliminate preventable harm to mothers and babies; domestic violence and intimate partner violence prevention (B-3)

Increase utilization of folic acid and/or multivitamins to impact birth defects (B-7)

Critical congenital heart defect screenings occurring in all birthing hospitals (B-9)

Developing data systems to understand and inform efforts (D)

Current Active Engagements

(ongoing activities or pilot projects;
candidates for scaling up, expanding reach, or performance management)

Streamline the Medicaid application process (A-2)

Improve pregnancy spacing through increased access to Long-Acting Reversible Contraceptives (LARCs) (A-4)

Reduce barriers to access to care through telemedicine and community health workers (A-5)

Social media use to deliver health care messages and access to resources (A-6)

Eliminate preventable harm to mothers and babies; clinical care (B-3)

Promote safe sleep environments (B-4)

Promote and expand CenteringPregnancy programs (B-6)

Strengthen, support, and promote breastfeeding efforts (B-8)

Access to home visitation programs for pregnant women and infants (B-11)

Oral health care for pregnant women (B-12)

Reduce teen birth rates through evidence-based programs and increased access to and utilization of Long-Acting Reversible Contraceptives (LARCs) (C-2)

Increase provider screening and referrals for smoking, alcohol use, drug use, domestic violence, and depression (C-3)

Eliminate disparities and promote health equity (E)

Opportunities for Future Activity

(gaps or areas for improvement; candidates to identify potential partners and interventions)

Interconception care coordination for women with previous low birth weight or preterm birth (A-3)

Increase utilization of immunizations among pregnant women (B-5)

Provide educational materials about 17P (B-10)

Develop education programs for obstetrical providers to become pregnancy medical homes (B-13)

Interconception health care for women with chronic diseases and adverse pregnancy outcomes (C-1)

Increase number of women who attend postpartum visit (C-4)

Increasing family support services / engage men and other family members*

* Additional strategy emerged from qualitative research component of the 2015 Title V Needs Assessment

DISCUSSION

WELL-ESTABLISHED ACTIVITIES

Strategies were included in this category if well-established and sustained activities were identified. These are areas that represent major strengths in MCH in S.C., as identified services and interventions are routine, structural, or sustained. Therefore, these strategies are prime candidates for quality improvement efforts or enhanced targeting to at-risk or underserved populations.

Perhaps one of the most well-established and sustained activities in MCH in S.C. is the **Regional Perinatal System**. S.C. has legislative support for a regional perinatal system, which is not true of many states across the U.S. The Regional Perinatal System plays a key role in the prevention of adverse birth outcomes, particularly neonatal mortality among very low birth weight infants. Stakeholders are currently exploring quality improvement opportunities through the National Infant Mortality Collaborative Improvement and Innovation Network (CoIIN). Improving access to risk-appropriate care through evidence-based enhancements to the Regional Perinatal System was also listed as one of the state's selected MCH priorities resulting from the 2015 Title V Needs Assessment process.

S.C. Birth Outcomes Initiative (BOI) and partners have been successful in garnering support from all birthing hospitals across the state to pledge to reduce rates of **non-medically indicated early elective deliveries prior to 39 weeks gestation**. The state Medicaid agency and Blue Cross Blue Shield of S.C. have implemented nonpayment policies for non-medically indicated early elective deliveries prior to 39 weeks gestation. These successes are profound, yet more work is needed in the reduction of non-medically indicated cesarean births prior to 39 weeks gestation. S.C. BOI is now in the process of trying to replicate their efforts and expand these positive results to **non-medically indicated cesarean births**. Reducing the prevalence of preterm birth through evidence-based programs and clinical interventions was also chosen as one of the state's selected MCH priorities as a result from the 2015 Title V Needs Assessment process.

Although **smoking during pregnancy** rates in S.C. have not yet achieved the Healthy People 2020 National Objective of having fewer than 1.4% of pregnant women smoking, the S.C. Tobacco Quitline is considered a well-established and sustained activity. The S.C. Tobacco Quitline has shown positive outcomes in reducing smoking rates among pregnant women and S.C. DHEC's Division of Tobacco Prevention and Control is expanding their efforts related to cessation campaigns and providing training for prenatal providers. Smoking cessation among pregnant women is critical. However, more efforts are needed to promote household and preconception smoking cessation, which play a key role in secondary smoke and exposure to tobacco for families. Reducing smoking and exposure to tobacco use among the MCH population was also identified as one of the selected priorities resulting from the 2015 Title V Needs Assessment process.

Newborn blood spot screenings and hearing screenings are a routine activity of S.C. DHEC and play a key role in **eliminating preventable harm to mothers and babies**. S.C. DHEC's Division of Children's Health is currently engaged in quality improvement efforts within these program areas, aiming to enhance data quality and referrals to early intervention services.

Eliminating preventable harm to mothers and babies efforts related to **child wellbeing and abuse prevention**, as well as **domestic violence and intimate partner violence prevention** are crucial to MCH. These strategies are categorized as well-established activities because they are both led by

designated agencies that partner with community organizations, raise awareness, participate in capacity-building activities, and deliver trainings and resources to further their mission. Children's Trust of S.C. is the statewide organization solely focused on the prevention of child abuse, neglect, and injury. The S.C. Coalition Against Domestic Violence and Sexual Assault (SCCADVASA) is recognized as the state leader in domestic violence and intimate partner violence prevention.

Furthermore, designated agencies are implementing activities to **increase utilization of folic acid and/or multivitamins to impact birth defects**. The Greenwood Genetic Center leads a neural tube defect monitoring program and conducts birth defect prevention efforts by distributing multivitamins containing folic acid to women of childbearing age across the state. The South Carolina Birth Defects Program administered by S.C. DHEC is responsible for routine surveillance and monitoring of birth defects. Efforts are underway to strengthen data sharing agreements and prevention efforts to ensure outreach to at-risk populations, including Hispanic women.

Another example of a well-established or routine activity is **Critical Congenital Heart Defect screening**, which is required of all birthing hospitals according to the Emerson Rose Act. S.C. DHEC, S.C. BOI, March of Dimes S.C. Chapter, and the Regional Perinatal System worked closely together in the development and implementation of screening among birthing hospitals.

Lastly, it is crucial that programming and service delivery is data-driven. Developing **data systems to understand and inform efforts** is categorized as a well-established activity due to the ongoing nature of MCH data collection. Current strengths of available data systems include linkage to additional data sources such as vital records and Medicaid claims data, as well as data sharing agreements to improve data quality. The Office of Revenue and Fiscal Affairs (RFA), S.C. BOI Data Work Group, and S.C. Campaign to Prevent Teen Pregnancy are some examples of stakeholders that have demonstrated the ability to use data in innovative and creative ways to understand and inform MCH efforts.



CURRENT ACTIVE ENGAGEMENTS

Strategies were included in this category if considerable ongoing activities were identified. Activities in this category may be pilot projects, new programming, or expanded or targeted services. There may also be several partners working within these areas. For these activities in particular, it is important that partners coordinate with each other and provide services and programs that are culturally appropriate and targeted to at-risk or underserved populations. Therefore, these strategies are prime candidates for scaling up, expanding reach, or performance management.

In regards to streamlining the **Medicaid application process**, the S.C. Medicaid Agency, S.C. Department of Health and Human Services (DHHS), implemented a new application and enrollment system in accordance with Affordable Care Act (ACA) regulations. This includes, but is not limited to, ensuring the Medicaid application is available online. S.C. DHHS is taking an active role in troubleshooting and improving timeliness of processing applications and enrollment in care for Medicaid clients. There are also additional pilot projects aiming to improve application and enrollment processes with S.C. Department of Social Services and S.C. DHEC.

Long-Acting Reversible Contraceptives (LARCs), including contraceptive implants and intrauterine devices (IUDs), are effective forms of birth control that can prevent unplanned pregnancies. LARCs are made accessible through S.C. Medicaid and other insurance coverage options, as well as offered at all S.C. DHEC Family Planning clinics. LARCs may be especially useful in **increasing pregnancy spacing**. In fact, South Carolina was the first state in the U.S. to provide Medicaid coverage of immediate postpartum LARC insertion. LARCs may also be especially useful in **reducing teen birth rates**. In South Carolina and across the country, teens tend to have lower rates of LARC utilization. More research is needed to identify barriers to access and utilization of LARCs among sexually active teens and utilize these findings to guide outreach and awareness-raising efforts. There are several organizations throughout the state that are working towards increasing awareness and contraceptive access, especially among teens. Two of the leading organizations in this area are the S.C. Campaign to Prevent Teen Pregnancy and New Morning Foundation. Throughout family planning programs and services, it is important to provide adequate information about the wide range of contraceptive options for all women to be able to make an educated decision about the right method for them, which may or may not be LARCs.

Other efforts to reduce barriers to access to care include **telemedicine and community health worker programs**. S.C. DHHS is conducting a pilot project utilizing telemedicine to increase access to prenatal care in rural counties where prenatal care providers are not available. This program is being implemented in conjunction with case management services from Family Solutions of the Low Country to extend its reach and effectiveness to target populations. Community health workers are an evidence-based model that is being used by multiple partners for health promotion and increasing access to prenatal care. S.C. DHHS, PASOs, and Family Solutions of the Low Country are some organizations that utilize community health workers in their programming. These outreach efforts are able to meet people where they are and reach at-risk or underserved populations. Furthermore, community health workers may provide resource navigation, culturally appropriate support, and health promotion.

Social media can be an effective tool for delivering health care messages and promoting access to resources, especially among teens and younger adults. Key social media initiatives related to MCH include [text4baby](#), a free text message service for pregnant women and new moms, and [Bedsider](#), an online birth control support network for young women. Some organizations that actively utilize social media for MCH promotion include S.C. DHEC, S.C. Campaign to Prevent Teen Pregnancy, Choose Well, and Tell Them.

Eliminating preventable harm to mothers and babies efforts related to **clinical care interventions** often focus on patient safety and clinical best practices to ensure optimal outcomes. Standardizing maternal levels of care and the SimCOACH, which brings provider education to birthing hospitals, are major activities in this area. Further opportunities related to promoting maternal safety and ensuring optimal clinical outcomes are currently being explored by S.C. BOI Quality and Patient Safety Workgroup and other partners.

Often there are differences in understanding what constitutes a **safe sleep environment**. This may be due to a lack of consistency of messaging among medical and child care providers, and is often not discussed with families. Cultural and family norms also play a key role in these differing opinions and can make safe sleep a controversial topic, especially when considering breastfeeding promotion. The Safe Sleep Coalition aims to reduce these differences in understanding by developing and distributing a standardized safe sleep curriculum in accordance with American Academy of Pediatrics recommendations. The first step in ensuring infant sleep safety is making sure that families and caregivers understand what it means to put an infant to sleep safely. Increasing the implementation of safe sleep environment practices was also found to be one of the state's selected top ten priorities from the 2015 Title V Needs Assessment.

Breastfeeding is promoted as the ideal method for infant feeding in most cases. However, rates of breastfeeding in S.C. fall short of Healthy People 2020 goals, especially among Black women. There are ongoing efforts across the state to promote breastfeeding initiation, continuation, and support. However, more efforts are needed to engage the business community and encourage mother-friendly workplaces, develop and implement a statewide breastfeeding strategic plan, and improve access to lactation consultants and peer counselors. Improving breastfeeding initiation, continuation, and support was found to be one of S.C.'s top ten MCH priority areas through the 2015 Title V Needs Assessment process. Innovative activities in this area include the Mother's Milk Bank of S.C., the Baby Friendly Hospital Initiative, and **CenteringPregnancy** programs. CenteringPregnancy program participants have demonstrated increased breastfeeding rates and utilization of postpartum family planning services, as well as reduced rates of prematurity, especially among African-American and Black women. Expansion efforts are underway to ensure that CenteringPregnancy programs are available in areas where they are both beneficial and appropriate.

Evidence-based **home visitation programs** have demonstrated positive outcomes related to improved health and wellbeing of vulnerable populations, including pregnant women, children, and families. There are various home visiting models that are currently being implemented with MCH populations in S.C., including, but not limited to, Nurse-Family Partnership, Healthy Steps, Healthy Families, Parents as Teachers, and Early Head Start. Two innovative initiatives within home visitation include universal staffing and "Pay for Success". Universal staffing aims to coordinate referrals and assure maximum enrollment in all programs by bringing intentional understanding among all home visiting programs. "Pay for Success" is a public/private financial structure to expand Nurse-Family Partnership. Home visitation programs are also avenues for several other MCH services and interventions, as they are able to meet the clients where they are and provide education and counseling on health promotion and care. For example, S.C. DHEC's Division of Oral Health supported a pilot project integrating **oral health care** messaging into home visitation programs to enhance oral health promotion and outreach. This is important because oral health is an area that is typically segregated from other medical and clinical prenatal care. There are many ongoing activities within oral health promotion in conjunction with the State Oral Health Plan, whose main priorities include: education and prevention, dental public health infrastructure, dental workforce development, ensuring access to oral health services, and policy and advocacy.

Furthermore, provider **screenings for smoking, alcohol use, drug use, domestic violence, and depression** are a key element to providing linkage and referrals to treatment and care, which can mitigate adverse health outcomes. It is vital that women are getting screened at multiple points of

entry into care from various providers and to ensure detection of risk factors and to reduce missed opportunities. There are ongoing activities related to improving provider utilization of the Screening, Brief Intervention, and Referral to Treatment (SBIRT) Tool, particularly supported by the S.C. BOI Behavioral Health Work Group.

No matter the particular MCH topic area, it is critical to deliver programs and services in a culturally appropriate manner to populations most at risk in an effort to **eliminate health disparities and promote health equity**. One major strength in promoting health equity is the collaboration among partner organizations. Specific organizations and initiatives such as S.C. DHEC's Office of Minority Health, PASOs, CenteringPregnancy, March of Dimes S.C. Chapter, and community health workers play a considerable role in reducing health disparities. Many programs offer translation services; however, translation services alone do not ensure culturally competent care. All MCH service providers have a role to play in reducing health disparities. More efforts are needed to ensure cultural appropriateness and access to care for everyone in the state in order to address the social determinants of health and achieve health equity. It is important to note that reducing racial and ethnic disparities in employment and insurance coverage and other barriers to health care was listed as one of South Carolina's priorities resulting from the 2015 Title V Needs Assessment process.

OPPORTUNITIES FOR FUTURE ACTIVITY

Strategies were included in this category if there was a lack of or minimal ongoing designated activities identified by partners interviewed. They may, however, be addressed indirectly or by additional partners or interventions not included in this assessment. Activities within this category identify MCH service or programmatic gaps and areas for improvement. Therefore, they should be explored further and are prime candidates to assess particular needs or identify potential partners and interventions.

Interconception health care and interconception care coordination, especially for women with chronic diseases and previous adverse birth outcomes, were included in this category because this assessment did not identify any designated efforts in these areas with extensive reach across the state. However, these topics are promoted through community health workers, home visiting programs, safety net coverage programs, and Family Solutions of the Low Country, among other initiatives. At this time, a more comprehensive understanding of interconception care services in S.C. is not available. It is important to note that the use of progesterone or 17P has been found to reduce subsequent preterm births among women with a history of preterm birth. S.C. Medicaid provides coverage for the utilization and home administration of 17P for women with a previous preterm birth. However, current baseline measures for 17P utilization are not available. More data is needed to better understand rates, patterns, and barriers to 17P utilization. **17P patient and provider education** efforts are currently being explored by various partners, including S.C. BOI.

For several of the strategies in this category, S.C. lacks a baseline understanding of prevalence and need. For example, an accurate baseline of **immunization utilization by pregnant women** is currently lacking. S.C. DHEC's Immunizations Division is developing and implementing a mandatory state immunization registry that should help to address this challenge. In addition, data measures to quantify how many **women keep their postpartum appointments** are not available at this time. It is likely that these strategies are promoted via several interventions discussed in this assessment such as home visiting programs and community health worker programs; however, specific interventions designated in these areas were not identified in this assessment.

Furthermore, statewide interventions for **formal education programs for obstetric providers to become pregnancy medical homes** were also lacking. Family Solutions of the Low Country is conducting quality improvement efforts related to patient medical homes in one region. This topic is also currently being explored by the S.C. BOI Quality and Patient Safety Work Group.

Finally, **increasing family support services / engaging men and other family members** was an emergent theme from the qualitative research component of the 2015 Title V Needs Assessment, but was not specifically mentioned in the original HMHB Plan. It cannot be determined to what degree the various activities included in this assessment engage men and other family members. Historically, “maternal and child” health has been focused on mothers and babies. A paradigm shift is needed to identify all of the significant individuals in the life of a child and ensure services are targeted towards family units. More efforts are needed to engage men and other family caregivers such as aunts, uncles, and grandparents to ensure that services are delivered in a culturally appropriate, effective, and high-quality manner. S.C. Center for Fathers and Families and Family Connection are two organizations that were identified as supporters of father engagement through this assessment.

CONCLUSION

The original [Healthy Mothers, Healthy Babies Plan](#) identifies recommendations and strategies to reduce infant mortality and preterm births in S.C. The HMHB Assessment identifies current partners and activities that impact these strategies. Overall, the goal of the HMHB Assessment is to utilize the lessons learned in regards to strengths and opportunities for improvement in order to facilitate collaboration among partners and improve the quality of MCH services in S.C.

Through stakeholder interviews and supplemental Title V Needs Assessment findings, HMHB strategies were categorized as either well-established activities, current active engagements, or opportunities for future activity. It is crucial that programs and services are culturally appropriate and relevant to ensure effectiveness and acceptance by the target population. It is equally as important to utilize data to identify effective activities and populations in greatest need. Resources are limited; thus, it is necessary to identify which activities or interventions will have the greatest potential to eliminate health disparities and promote health equity.

This HMHB Assessment Report provides an overview and summary of the HMHB Assessment process and methodology, as well as briefly describes each of the HMHB strategies in the context of three categories. For more detailed information regarding any of the HMHB strategies, activities, or partners discussed here, consult the [S.C. Maternal and Child Health Planning and Partnership Resource Guide](#). The resource guide highlights goals, key partners, promising practices, challenges, and accomplishments of each HMHB strategy and serves as a tool for collaboration to better inform and equip MCH partners across the state.

Please note that the results and findings of the HMHB Assessment may not accurately represent current activities and do not include all MCH activities or partners in South Carolina. Results are not exhaustive and may be biased towards major organizations and providers that have historically partnered with S.C. DHEC. Smaller or lesser known organizations and programs with fewer resources or presence in the state may have been unintentionally excluded at this time. Representatives of these organizations or programs are encouraged to contact the S.C. Department of Health and Environmental Control Maternal and Child Health Bureau for inclusion in this assessment.

The HMHB Assessment is intended for use by public health, healthcare, and community decision makers across the state. MCH stakeholders can benefit from this assessment through increased opportunities for strategic planning activities, collaboration with key partners, and resource allocation and capacity-building efforts. Findings and recommendations from this assessment can be used to provide recognition and support for well-established or innovative programs and activities, improve programmatic reach and impact on target communities, improve quality of existing services and programs, and provide support for innovative efforts.

RECOMMENDATIONS FOR FUTURE ACTION

CONTINUE TO SUPPORT ONGOING ACTIVITIES:

- Reduction of non-medically indicated inductions prior to 39 weeks gestation
- Standardization of care and clinical protocols to improve quality and patient safety
- Development of state immunization registry
- Long-Acting Reversible Contraceptive (LARC) utilization to increase pregnancy spacing
- Standardization of safe sleep messaging
- Promotion of smoking cessation during pregnancy
- Utilization of data systems to understand and inform efforts
- Maintenance of the Regional Perinatal System

CONTINUE TO EXPAND OR TARGET ONGOING ACTIVITIES:

- Reduction of racial, ethnic, and geographic health disparities
- Breastfeeding continuation, education, promotion, and support
- Telemedicine initiatives
- Community health worker programs
- CenteringPregnancy programs
- Evidence-based home visitation programs
- Violence prevention activities, including child abuse and intimate partner violence
- Provider screenings and referrals for smoking, drug use, domestic violence, and depression
- Streamlined Medicaid application and enrollment processes
- Integration of oral health messaging

- Utilization of social media to deliver health promotion messages and increase access to resources
- Regional Perinatal System quality improvement activities
- Elimination of non-medically indicated cesarean births

EXPLORE FUTURE OPPORTUNITIES FOR WHICH CURRENT ACTIVITIES ARE MINIMAL OR NOT IDENTIFIED:

- Establish coordinated pre- and inter- conception healthcare and care coordination efforts and partnerships with community health and non-traditional partners to address social determinants of health
- Actively engage men and extended family members in MCH services and activities
- Examine 17P utilization rates, patterns, and barriers to guide patient and provider education and outreach efforts
- Examine teen Long-Acting Reversible Contraceptive (LARC) usage barriers to guide education and outreach efforts
- Establish coordinated efforts to encourage immunizations among pregnant women
- Explore opportunities for obstetric providers to become pregnancy medical homes



APPENDIX A: HEALTHY MOTHERS, HEALTHY BABIES RECOMMENDATIONS AND STRATEGIES

RECOMMENDATION A: IMPROVE ACCESS TO SYSTEMS OF CARE FOR WOMEN BEFORE, DURING, AND AFTER PREGNANCY

- A-1: Ensure that all pregnant women and high-risk infants have access to the appropriate level of care through a well-established regional Perinatal system
- A-2: Streamline the Medicaid application process
- A-3: Provide interconception care coordination to women with previous low birth weight and premature deliveries
- A-4: Improve pregnancy spacing through increased access to long acting reversible contraceptives (LARCs) such as intrauterine devices (IUD) and the contraceptive implant
- A-5: Reduce barriers to access to prenatal care through the use of telemedicine in Perinatal consultations and the use of community health workers to enhance medical workforce capacity
- A-6: Utilize social media, such as text4baby, Facebook, and Twitter to deliver health care messages and promote access to resources

RECOMMENDATION B: PROMOTE USE OF EVIDENCE-BASED PATIENT PRACTICES BY HEALTH CARE PROVIDERS AND FAMILIES

- B-1: Work with all birthing hospitals to sign pledge to stop non-medically indicated inductions and cesarean deliveries prior to 39 weeks
- B-2: Promote smoking cessation among pregnant women through the use of evidence-based interventions and the Tobacco Quit Line
- B-3: Eliminate preventable harm to mothers and babies through quality care and consistent delivery of evidence-based practices within the healthcare system
 - Part A: Newborn and Developmental Screenings
 - Part B: Clinical Care
 - Part C: Child Well-Being and Abuse Prevention
 - Part D: Intimate Partner and Domestic Violence Prevention

- B-4: 1) Working with non-primary infant caregivers such as child care providers, churches, and baby sitters to assure they practice and promote safe sleep recommendations; 2) Standardizing provision of Safe Sleep education and training for providers, including OB, Pediatrics, nursing staff, discharge planners, home visitors, clinic staff; 3) Developing strategic alliances and cooperative partnerships to endorse AAP safe sleep recommendations, promote safe sleep and prenatal smoking cessation (AARP, sororities, civic groups, students, volunteers, Girl Scouts, and others)
- B-5: Increase access to and utilization of immunizations recommended by the Advisory Committee on Immunization Practices (ACIP) for pregnant women
- B-6: Expand Centering Pregnancy Programs; this model's outcomes include empowerment and community building, increased patient satisfaction, reduction in preterm birth, and increased breastfeeding rates
- B-7: Increase utilization of folic acid and/or multivitamins to impact birth defects
- B-8: Strengthen, support, and promote breastfeeding efforts in the state by: 1) Increasing access to lactation consultants and peer counselors; 2) Increasing the number of hospitals working toward Baby Friendly certification; 3) Implementing a S.C. Breastfeeding Strategic Plan to improve breastfeeding rates; and 4) Increasing the number of employers designated as Mother-Friendly Workplaces
- B-9: Conduct pulse oximetry screening for critical congenital heart defects (CCHDs) in all S.C. birthing hospitals
- B-10: Provide culturally-appropriate consumer educational materials about 17P, a medication that can prevent premature births in women who have previously had a preterm birth, to this target population
- B-11: Expand access to evidence-based home visitation programs for pregnant women and infants that focus on risk factors for maternal, infant, and child morbidity and mortality
- B-12: Promote use of S.C. Oral Health Coalition's "Oral Health Care for Pregnant Women" guidelines
- B-13: Develop formal education programs for OB providers to become pregnancy medical homes

RECOMMENDATION C: PROMOTE HEALTH ACROSS THE LIFESPAN

- C-1: Improve access to interconception health care, with a particular focus on women with chronic diseases and adverse pregnancy outcomes
- C-2: Reduce teen birth rates through increased implementation of evidence-based teen pregnancy prevention programs and increased access to long-acting reversible contraceptives (LARCs)
- C-3: Increase the number of providers screening pregnant women for smoking, alcohol, and drug use, domestic violence, and depression, and making appropriate referrals
- C-4: Increase the number of women who keep the postpartum visit appointments to ensure follow-up for any post-pregnancy health concerns and the opportunity to access a birth control method of their choice

RECOMMENDATION D: DEVELOP DATA SYSTEMS TO UNDERSTAND AND INFORM EFFORTS

- D-1: Use data to identify counties and neighborhoods at highest risk of poor birth outcomes and implement priority interventions in those areas
- D-2: Conduct a thorough assessment of existing data systems to determine strengths that currently exist and which data systems may need to be developed and/or improved
- D-3: Create formal data-sharing partnerships to facilitate timely and ongoing data analysis and linkages
- D-4: Partner with Vital Statistics to devise and implement strategies to improve data quality from birth and death certificates, as well as surveys such as the Pregnancy risk Assessment Monitoring System and the Behavioral Risk Factor Surveillance System
- D-5: Work with Community Health and Chronic Disease Prevention partners to collaborate closely on projects around topics in the intersection of chronic disease and maternal and child health
- D-6: Explore opportunities to expand data analysis capacity through partnerships and collaborations with other researchers such as graduate students, university faculty and staff, and fellows

RECOMMENDATION E: ELIMINATE DISPARITIES AND PROMOTE HEALTH EQUITY

- E-1: Ensure health care services are provided in a manner compatible with the cultural beliefs, practices, and preferred language of the consumer
- E-2: Collaborate with community-based organizations such as Healthy Start and PASOs to implement culturally appropriate best and promising practices in targeted counties with greatest numbers and rates
- E-3: Implement programs with an evidence base for the population served
- E-4: Prepare and maintain current demographic, cultural, and epidemiologic profiles to accurately plan and implement services that respond to the cultural and linguistic characteristics of the population
- E-5: Offer technical assistance and training to providers at all levels to improve the quality of care for high-risk pregnant women and the level of cultural competence in health care delivery



APPENDIX B: LIST OF HMHB ASSESSMENT PARTNERS INTERVIEWED

IN ALPHABETICAL ORDER

Children’s Trust of South Carolina	South Carolina Coalition for Healthy Families
Choose Well	South Carolina Department of Health and Environmental Control (S.C. DHEC)
Family Connection	<ul style="list-style-type: none"> • Division of Immunizations
Family Solutions of the Low Country	<ul style="list-style-type: none"> • Division of Tobacco Control
First Steps	<ul style="list-style-type: none"> • Maternal and Child Health Bureau
Greenville Health Systems	<ul style="list-style-type: none"> • Office of Minority Health
Greenwood Genetic Center	South Carolina Department of Health and Human Services (S.C. DHHS)
March of Dimes, South Carolina Chapter	<ul style="list-style-type: none"> • Eligibility and Enrollment
Mother’s Milk Bank of South Carolina	<ul style="list-style-type: none"> • Medicaid Coverage
New Morning Foundation	<ul style="list-style-type: none"> • SC Birth Outcomes Initiative
National Association of Social Workers, South Carolina Chapter	South Carolina Head Start Collaboration Office
Nurse-Family Partnership	South Carolina Institute of Medicine and Public Health
Perinatal Awareness for Successful Outcomes (PASOs)	South Carolina Office of Rural Health
South Carolina Breastfeeding Coalition	Tell Them
South Carolina Campaign to Prevent Teen Pregnancy	United Way of the Midlands
South Carolina Center for Fathers and Families	University of South Carolina Sexual Assault and Violence Intervention and Prevention
South Carolina Chapter of American College of Nurse-Midwives	

APPENDIX C: 2015 TITLE V NEEDS ASSESSMENT KEY RESULTS

South Carolina’s state selected priorities resulting from the 2015 Title V Needs Assessment process are as follows:

Number	Priority
1	Increase appropriate preventive health and developmental screenings and referral to early intervention services
2	Reduce smoking and exposure to tobacco use among the maternal and child health population
3	Improve health promotion among the maternal and child health population, including preventive health visits and screenings
4	Improve access to risk-appropriate care through evidence-based enhancements to the perinatal regionalization system
5	Reduce the prevalence of preterm birth through evidence-based programs and clinical interventions
6	Reduce racial/ethnic disparities in social determinants of health, including insurance coverage, other barriers to health care and employment
7	Increase physical fitness among children and adolescents
8	Increase implementation of safe sleep environment practices
9	Improve breastfeeding initiation, continuation, and support
10	Improve care coordination for children and youth with special health care needs

South Carolina selected the following eight National Performance Measures (NPM) out of the 15 National Performance Measures available, based on the priorities discussed above.

NPM#	MCH Population Domains	National Performance Measure
1	Women/Maternal Health	Percent of women with a past year preventive medical visit
3	Perinatal/Infant Health	Percent of very low birth weight infants born in a hospital with a Level III+ Neonatal Intensive Care Unit (NICU)
4	Perinatal/Infant Health	Percent of infants who are ever breastfed and percent of infants breastfed exclusively through 6 months
5	Perinatal/Infant Health	Percent on infants placed to sleep on their backs
6	Child Health	Percent of children, ages 10 – 71 months, receiving a developmental screening using a parent-completed screening tool
8	Adolescent Health	Percent of children ages 6 – 11 and adolescents ages 12 – 17 who are physically active at least 60 minutes per day
11	Children with Special Healthcare Needs	Percent of children with and without special health care needs having a medical home
14	Cross-cutting/Life Course	Percent of women who smoke during pregnancy and percent of children who live in households where someone smokes

South Carolina developed the following five State Performance Measures (SPM) based on the priorities identified above:

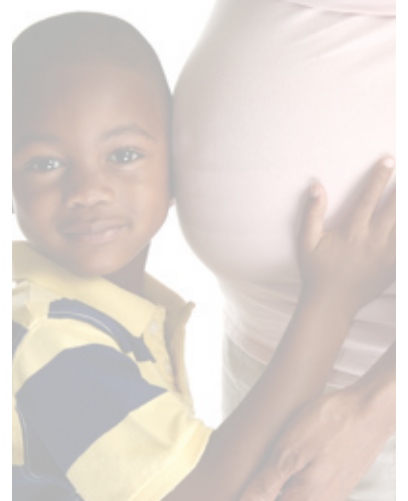
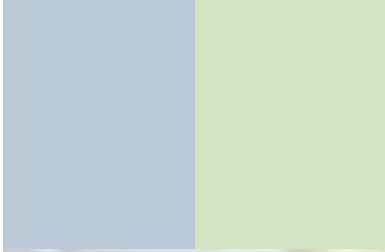
SPM#	MCH Population Domains	State Performance Measure
1	Perinatal/Infant Health	The percentage of women delivering a live birth who have had a previous preterm birth receiving 17P during their pregnancy
2	Women/Maternal Health	The percentage of women who reported financial barriers to prenatal care entry
3	Cross-cutting/Life Course	The percentage of national and state performance measures that include at least one strategy focused on disparity reduction
4	Children with Special Health Care Needs	The percentage of infants identified through newborn screening with sickle cell disease who receive care coordination services through the Children with Special Health Care Needs Program
5	Cross-cutting/Life Course	The rate of children age birth – 5 receiving a fluoride varnish application in a medical practice setting



APPENDIX D: LIST OF ABBREVIATIONS USED

IN ALPHABETICAL ORDER

17P	17 Alpha-hydroxyprogesterone caproate (progesterone injection)
HMHB	Healthy Mothers, Healthy Babies
LARC	Long-Acting Reversible Contraceptive
MCH	Maternal and Child Health
PASOs	Perinatal Awareness for Successful Outcomes
S.C.	South Carolina
S.C. BOI	South Carolina Birth Outcomes Initiative
S.C. DHEC	South Carolina Department of Health and Environmental Control
S.C. DHHS	South Carolina Department of Health and Human Services, State Medicaid Agency
SCCADVASA	South Carolina Coalition Against Domestic Violence and Sexual Assault



For questions or more information about the Healthy Mothers, Healthy Babies Assessment, please contact S.C. DHEC at info@dhec.sc.gov.

