



NORTH CAROLINA  
**Preconception Health Strategic Plan**

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September 2008 - September 2013

Contributing Partners:

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## Chapter 1 Background

There are 1.8 million women of childbearing age in North Carolina. They are our mothers, our sisters, our aunts, our friends, and our neighbors. They play a crucial role in our communities as parents and caretakers. They work in our schools, our offices, our factories, our hospitals, and our restaurants. In most families, they serve as the gatekeepers for healthy living. So not only is the health of these women inextricably linked to the health of their babies, it has a direct impact on the health of their families.

It is time to take a fresh approach to reducing infant mortality by improving the health of these women during their childbearing years. Preconception health offers a new perspective on an old problem. This vision presents women being healthy as a desirable end in itself and not just as an important way to improve the health of their babies. Preconception health helps women think about how their behaviors, lifestyles, and medical conditions affect their ability to live healthy lives and to have healthy children. It gives them the opportunity to be assessed for risks, to be counseled about healthy living, and to be offered treatment if needed.

Preconception health is defined by the Centers for Disease Control and Prevention (CDC) as interventions that aim to identify and modify biomedical, behavioral, and social risks to a woman's health or pregnancy outcome through prevention and management. It emphasizes those factors that must be acted on either before conception or early in pregnancy to have the greatest impact. The fundamental elements of preconception care include screening for medical and social risk factors, providing health education, and delivering effective treatment or prevention plans.

The North Carolina Strategic Plan on Preconception Health summarizes an extensive and

collaborative planning process that has laid the groundwork for future action. This document offers guidance on how to effectively focus our efforts and addresses why we should act, who needs to act, and who is most at risk in our state. The many reasons to support preconception health efforts are outlined in the following section.

The time to act is now; many have already begun to forge the path to better health for our women, our mothers, our babies, and our families. We invite and encourage you to become a part of these efforts in North Carolina.

Investing our resources and energy in preconception health is vital to North Carolina's future. Better preconception health improves the overall health of women and babies, decreases health disparities in our state, improves our health care system, and decreases costs to families and society.

## Healthier Women

Many women of childbearing age in North Carolina are entering pregnancy with risk factors that affect their health as well as the health of their baby. Over half of North Carolina women in this age are overweight or obese, almost 47 percent don't get the physical activity they need, and another 24 percent use tobacco. In addition, 26 percent report poor mental health,



11 percent report alcohol misuse,<sup>1</sup> and 8 percent report illicit drug use.<sup>2</sup> High blood pressure affects 10 percent of these women, and at least 3 percent have diabetes.<sup>3</sup>

Many of these risk factors not only affect the women themselves, but can negatively impact their pregnancies as well. For example, many of these risk factors can increase the risk of delivering a preterm and/or low birth-weight baby. Premature infants are more likely to have health problems throughout their lives. In addition, women with some of these risk factors are more likely to deliver a baby born with birth defects or other serious long-term medical conditions.<sup>4</sup>

# Healthier Babies

For decades, North Carolina has struggled with one of the highest infant mortality rates in the United States. Over half of infant deaths in North Carolina can be attributed to medical issues of the mother, many of which existed before pregnancy.<sup>5</sup>

For some mothers, serious health conditions that surface during pregnancy and are not addressed will increase the risk that their children will be born with problems. Further complicating North Carolina's efforts to give every child the best start possible is the fact that almost half of the pregnancies ending in a live birth in our state are unintended (48%), which increases the risk of either having a child with serious medical problems or the death of the infant.<sup>6</sup>

Preterm birth is the leading cause of child fatality in North Carolina, with one in every eight babies (13.5%) being born too soon. That means that each year more than 16,000 babies are born too early in North Carolina, and the number is increasing. Racial disparities in infant mortality and premature birth are evident, with a 2.5 times greater risk of death for African-American infants than Caucasian infants.<sup>7</sup>

For those who survive, pre-term birth can have a lifelong impact on their health, placing them at greater risk for insulin resistance syndrome, coronary heart disease and certain cancers later in life.<sup>8</sup> Other short- and long-term impacts of premature birth include vision problems, cerebral palsy and asthma. As many as half of all pediatric neurodevelopmental problems can be attributed to preterm birth.<sup>9</sup>

In addition to preterm births, over 3,000 babies are born in North Carolina each year with serious birth defects, another major cause of infant death and illness. Babies born with birth defects almost always require special care and services. Many birth defects, such as neural tube defects, occur early in the baby's development before the mother even knows she is pregnant. Daily folic acid supplementation before pregnancy can reduce the incidence of neural tube defects by up to 70 percent.

Women who experience one poor birth outcome (fetal death, stillbirth, birth defects or premature birth) are at

increased risk for having another poor outcome if they become pregnant again. These women have a heightened need for attention to health conditions, exposures, lifestyle behaviors and their emotional well-being.<sup>10</sup> Continuing to improve women's health in North Carolina is beneficial for both women and their babies.

## Eliminating Health Disparities

African-American women in North Carolina are disproportionately affected by poor health, experiencing higher rates of almost all conditions including diabetes, obesity, heart disease, stroke and breast cancer. They are also at greater risk of infant mortality, inadequate prenatal care, and sexually transmitted infections including HIV/AIDS. More African-American women lack health insurance, are unemployed, and live below the poverty level than Caucasian women. These severe disparities in birth outcomes and women's health have tragically



persisted through generations of African-Americans in North Carolina. Attention to the various components of preconception health with a special focus on African-American women holds particular promise for addressing health disparities. It may also help protect other minority women at risk for poor birth outcomes, such as American Indian and Hispanic women.

## Improving Health Care

Two health care challenges can hinder women's ability to stay healthy during their childbearing years. First, many women do not have health insurance. In fact, 25 percent of women of childbearing

age in North Carolina do not have health insurance, impeding their access to health care at this important time in their lives. In addition, many women who receive health insurance coverage during pregnancy via the Medicaid for Pregnant Women program become ineligible for public health insurance coverage two months after their babies are born.

A second challenge is that of integrated health care, a key component of preconception wellness. In the traditional health care system, women see different providers for different needs, receiving comprehensive care only when they are pregnant. Many opportunities already exist to address risk factors and medical conditions both before and after pregnancy, but the current structure of women's health care does not take advantage of these opportunities for prevention screening and education. This "opportunity gap" and lack of integration stands in the way of effective health care for women. In order to be effective, preconception health care must not occur at special visits, but rather during each and every encounter that women have with the health care system.

## Decreasing the Financial Burden

Prematurity and birth defects are not only the leading causes of child fatality in North Carolina, they are a financial burden to families and taxpayers. In 2004, over \$18 billion was spent nationwide to provide neonatal intensive care services to infants born prematurely. Direct employer health care costs for a preterm birth are estimated at \$41,610 versus \$2,830 for a healthy birth.<sup>11</sup> In 2005, the average Medicaid cost in North Carolina for a preterm baby in the first year of life was five times greater (\$19,299) than the cost to care for a baby born full term (\$3,588.)<sup>12</sup>

## National Priority

Preconception health has now become a national priority. In June 2005 and October 2007, the CDC, March of Dimes and other partners coordinated two national summits on preconception care. The recommendations released

from the U.S. Surgeon General's Conference on Prematurity in June 2008 focus heavily on women's health as a means to prevent prematurity. The CDC's Select Panel's recommendations to improve preconception health and health care were released in April 2006. The 10 recommendations are aimed at achieving four goals:

1. Improve the knowledge, attitudes, and behaviors of men and women related to preconception health;
2. Assure that all women of childbearing age receive preconception care services;
3. Reduce risks indicated by a previous adverse pregnancy outcome; and
4. Reduce the disparities in adverse pregnancy outcomes.

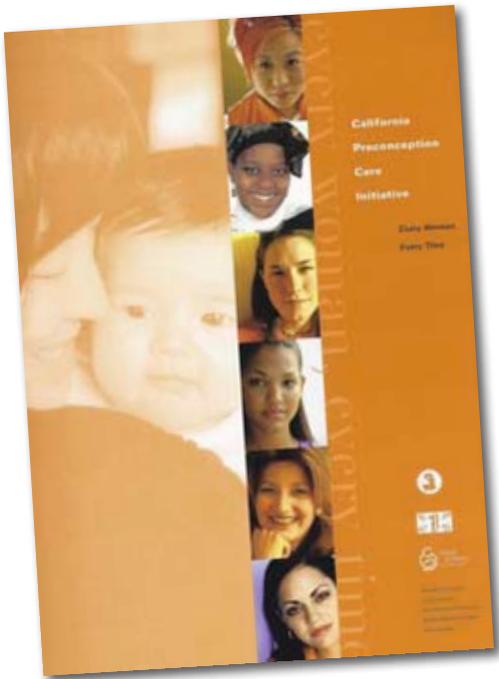
## State Initiatives

Many states have begun to develop and implement initiatives to improve women's health during their childbearing years. Since 1993, North Carolina and 24 other states have instituted some form of Medicaid waiver program to expand eligibility for



family planning to certain individuals in the state who do not meet the state's regular Medicaid eligibility requirements.<sup>13</sup>

In 2004, *Florida's Healthy Start* program began to train providers (nurses, social workers, health educators, and paraprofessionals) in their programs to provide interconceptional education in a culturally sensitive manner applicable to the participant and their assessed risk factors. Educational components included access to health care; management of maternal infections and chronic health conditions; weight, physical activity and nutritional counseling; appropriate baby spacing; substance abuse and smoking; mental health issues; and environmental risk factors.<sup>14</sup>



*California's Every Woman Every Time* project, created in 1989 through a partnership between Sutter Medical Center in Sacramento and the March of Dimes, developed marketing packets for providers which included the rationale for providing preconception care, a description of the essential elements of care, patient education materials and information on billing methods. More than 9,000 packets were distributed statewide. California's Preconception Care Coalition is in the process of developing a state action plan and has designated a position in its Maternal and Adolescent Health bureau to help coordinate preconception health efforts in the state.

In 2006, *Delaware's Division of Public Health* expanded wraparound services in preconception, prenatal and postnatal care to women at risk for poor birth outcomes. The additional services include psychosocial screening and support and nutrition monitoring. These services supplement prenatal and postnatal care currently provided by Medicaid and other insurers.

These are just a few examples of work going on in other states. Now it's North Carolina's turn to take action for healthier women and healthier babies on a community, county and state level. We must ensure that community support services and our health care system are accessible, comprehensive, and cost-effective. Fulfillment of the mission and goals outlined in this plan will require collaborative action to move toward our common goals of healthy women, healthy babies, and healthy families.

# North Carolina's History of Preconception Health

North Carolina has a rich history of leadership in preconception health. In the early 1980s, activities to promote preconception health were initiated in health department family planning clinics using a preconception health appraisal with patient education materials. In the late 1980s, the North Carolina Institute of Medicine convened a task force to examine issues around infant sickness and death. Their final report highlighted the importance of preconception health, stressing that women's health prior to pregnancy and during the first weeks of gestation has a critical impact on birth outcome. One of their recommendations was to implement school-based education; this resulted in the development of a comprehensive curriculum that emphasizes the link between the health habits of students and the health



of their future children. This curriculum is used by the Department of Public Instruction in their home economics course. Additional topics also covered in the state Healthful Living curriculum include folic acid, early prevention of sexually transmitted infections, alcohol and drug use, exercise, and nutrition.<sup>15</sup>

In 1987, North Carolina implemented the *Baby Love* program that provides health care and support services to low-income pregnant women and their children. This program continues to serve women around the state and was enhanced in 15 high risk counties through the federally funded *Healthy Start Baby Love Plus* and *Healthy Start Corps*

programs, which expand interconceptional screening and follow-up of women and their children for two years after pregnancy. Since the mid-1990s, the North Carolina Healthy Start Foundation has produced and distributed preconception brochures for men and women through the *First Step Campaign*. A magazine-style booklet for new mothers on staying healthy, *Taking Care of Me*, was funded by the N.C. Division of Public Health and developed by the North Carolina Healthy Start Foundation in 2005. Regional *Next Step for Mom* trainings were held to build on the *Taking Care of Me* publication in 2006.

In response to the high rate of neural tube defects in North Carolina, the N.C. Folic Acid Campaign has coordinated efforts to increase the consumption of multivitamins by all women of childbearing age in the state. Since the late 1990s, the multi-faceted campaign has worked with a combination of grassroots organizations and community educators, health care providers, media and partnerships to share the folic acid message.

Worksite wellness programs began to integrate preconception health in their programs in the late 1990s. The *New Beginnings*

program was developed at the University of North Carolina at Chapel Hill to educate women in the manufacturing setting about preconception health, prevention of sexually transmitted infections (STIs), family planning, prenatal education, and returning to work following the birth of a baby. One of the North Carolina companies that adopted elements of this program is Sara Lee, which created a *Healthy Workplace, Healthy Babies and Healthy Families* series of programs for its employees.

During the past decade, many groups have addressed tobacco use in North Carolina, including Project Assist, N.C. Prevention Partners, QuitNow NC, Smoke-Free Families, the N.C. Tobacco Use Quitline and the Women and Tobacco Coalition for Health (WATCH). Local health departments in North Carolina now use the “5A’s” counseling method for smoking cessation with pregnant women.

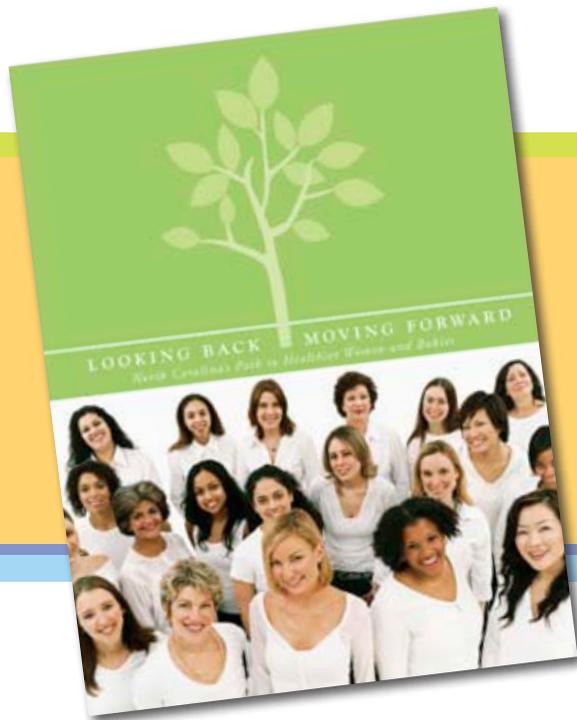
North Carolina received a Demonstration Medicaid Waiver in 2005 which extends eligibility for family planning services to all women and men ages 19 to 55 with incomes

at or below 185% of the poverty level. Other programs such as *Healthy Weight Healthy Women* address issues related to the weight of women of childbearing age through health department family planning and prenatal care clinics.<sup>16</sup>

From 2004 to 2006, North Carolina and four other states worked with the Centers for Disease Control and Prevention on the State Infant Mortality Collaborative. The final recommendations included the need to consider women's health, access to quality care, and disparities as essential issues to address for any future progress in infant mortality reduction.<sup>17</sup> In January 2007, the N.C. Division of Public Health dedicated a position in the Women's Health Branch to facilitate leadership in preconception health among a group of collaborative partners throughout the state.

North Carolina has many building blocks making up the strong foundation of its preconception health initiative. The strategic planning process builds on this initial foundation and is outlined in Chapter 2. We can no longer ignore the role preconception health plays in the health of women, children and families in our state and the physical, emotional and financial cost of the lack of preconception care. With the goals and strategies outlined in Chapter 3 as our guide, we must continue to move forward with our efforts. Please join us as we move from strategy to action in our quest for improved health for individuals, families, and communities in North Carolina.





## Chapter 2 Strategic Plan Framework and Development

### North Carolina's Collaborative Process – Development of the Strategic Plan

In the spring of 2006, the CDC's publication of national preconception health recommendations coincided with the release of the North Carolina State Infant Mortality Collaborative recommendations for reducing infant mortality, which focused on preconception health. A few months later, the University of North Carolina Center for Maternal and Infant Health launched a research effort to review and catalogue past and current programmatic efforts in North Carolina on the topic of preconception health. This research was compiled into a booklet entitled *Looking Back, Moving Forward: North Carolina's Path to Healthier Women and Babies*. The booklet was produced with support from the N.C. Folic Acid Council and the N.C. Chapter of the March of Dimes. An advisory group, including representatives from the state's Division of Public Health, was instrumental in its development.

Following the release of the booklet, support for a North Carolina preconception health initiative became increasingly evident. Leaders stepped forward from the UNC Center for Maternal and Infant Health, the N.C. Chapter of the March of Dimes, the N.C. Folic Acid Council, and the N.C. Division of Public Health to guide North Carolina's preconception health planning process. Four Think Tank meetings and several workgroups were convened between March 2007 and June 2008 to bring partners together in the development of the North Carolina Strategic Plan for Preconception Health. The partners include over 80 representatives from the Division of Public Health, Department of Public Instruction, local health departments, public and private universities, the Department of Health and Human Services, community-based organizations, non-profit agencies and consumers. Through this process, the following guiding principles emerged:

1. Utilize a collaborative planning, implementation and evaluation process that includes a large and diverse group of partners across North Carolina.
2. Infuse community development and consumer leadership into each step of the plan.
3. Prioritize programs with the potential to address health disparities.
4. Consider women's health needs and related wellness recommendations within the context of their family and communities.
5. Focus on the whole woman, not only on her reproductive capacity.
6. Avoid messages that imply that certain women should or should not become mothers.
7. Address the gap between "knowing" and "doing" by bridging the transition from information to behavior change.

The first step after establishing a leadership team was an extensive review of existing quantitative and qualitative data about women of reproductive age in North Carolina. These data have been included in this document in the Appendix. Based on these data, input from partners across the state, and the recommendations of the CDC's Select Panel

on Preconception Health, priority areas for North Carolina were identified for the Strategic Plan on Preconception Health. Workgroups met monthly from December 2007 to June 2008 to further identify goals, objectives, partners, and evaluation measures for the selected priority areas. Outlined below are the vision, goals, and priority areas of the North Carolina Strategic Plan on Preconception Health.

## Vision

This effort seeks to improve the health of women of childbearing age in North Carolina. Through a collaborative focus on women's wellness, North Carolina will improve the quality of life for women as well as the health of infants.

## Goals

- 1) Develop partnerships and work collaboratively to integrate preconception health into existing programs and services, as well as to collectively design new interventions.
- 2) Advocate for change at programmatic and policy levels to create an environment that promotes the health and well-being of women of reproductive age.
- 3) Promote and support preconception health related research, surveillance and evaluation to monitor progress and build a strong evidence base for interventions.
- 4) Focus resources on partnerships, programs and services that address disparities in women's health.

# Priority Areas

1. Pregnancy Intendedness
2. Obesity and Related Conditions
3. Substance Abuse
4. Mental Health
5. Collaborative Research on Preconception-focused Topics
6. Policy Development and Access to Care

Initial focus will be placed on two areas in particular: 1) Pregnancy Intendedness and 2) Obesity, Overweight and Related Conditions. These two areas were selected based on the current resources available and the interest of the initiative participants. As the Strategic Plan work continues and more resources and partners become available, workgroups will address remaining and newly emerging priority areas.

Unintended pregnancies directly correlate with poor birth outcomes. Couples may have risk factors or be engaging in behaviors that put their own health and – unknowingly –

the health of their unborn child at risk. Healthy timing and spacing of pregnancy provides couples the opportunity to prepare for the healthiest pregnancy possible.

The obesity epidemic in the U.S. has not left women of childbearing age untouched. The conditions of obesity and overweight affect the majority of these women and are directly linked to chronic conditions, particularly hypertension, diabetes and cardiovascular disease. In addition, women with these conditions are at increased risk for pregnancy complications such as gestational diabetes and pre-eclampsia, and their infants are at increased risk for premature birth and birth defects.



## Chapter 3 Goals and Strategies

This chapter outlines the goals and strategies identified through an extensive and collaborative planning process. This section is intended to be used in many ways by many audiences. Program planners interested in expanding preconception health efforts should use this section to identify strategies applicable to them, while agencies can identify potential collaborators and funding sources. Health programs can find ways to integrate preconception health into their existing programs; policy proponents can find a comprehensive and thoughtful set of recommendations to improve women’s health in North Carolina; and funders can find program ideas and agencies to carry out their work.

The goals and strategies listed in this section were identified and prioritized by members of the Pregnancy Intendedness and Obesity, Overweight and Related Conditions workgroups. Through similar processes, the two workgroups arrived at similar goals and strategies that can also be applied to many other areas of preconception health. To receive a copy of the detailed recommendations provided by the Pregnancy Intendedness workgroup, please contact the N.C. Women’s Health Branch at 919-707-5700.

The goals and strategies can most easily be divided into four categories that follow the activities outlined in the state's preconception health logic model. As with any large public health initiative, there is a great deal of overlap between these areas and the potential for broad, sweeping initiatives as well as small, specific programs. New initiatives, and expansion of existing programs that are sustainable and promote service integration, are needed to improve women's health in North Carolina.

## Increase Consumer and Community Awareness about Preconception Health

The term preconception health is relatively unknown to the general public. Even the idea of health before pregnancy for the sake of healthy outcomes for the mother and baby is a little-known concept, particularly considering that almost half of all pregnancies in North Carolina are unintended. While most people believe that women should be healthy while they are pregnant, little thought is given to preparing for pregnancy. Therefore, the goal of increasing consumer and community awareness about preconception health becomes the foundation of all preconception work with individuals. These efforts attempt to shift consumer awareness from its current focus on health during pregnancy to wellness before pregnancy by: 1) increasing awareness of the importance of pregnancy intendedness; 2) integrating preconception health messages into general wellness education in all sectors of society; and 3) influencing health care and food systems to support health throughout women's lives. Because this is such a new concept for the general public, consumer-focused research is needed to determine which messages and tools are effective in promoting increased awareness among consumers.

## GOALS

Increase awareness of the importance of wellness and preconception health behaviors for men and women in their reproductive years, particularly among minority populations.

Increase awareness of the importance of healthy weight and healthy eating during the reproductive years, particularly the benefits of increased fruit and vegetable consumption.

Increase awareness of the importance of reproductive life planning.

## STRATEGIES

Conduct key informant and consumer-focused research to identify terms that the public understands and to develop relevant messages for promoting preconception health and reproductive awareness.

Develop, evaluate, and disseminate educational tools promoting preconception health planning.

Integrate preconception health and wellness messages into existing health promotion campaigns.

Integrate preconception health and wellness messages into life skills and career programs in school, faith communities, and other environments.

Educate/empower women to increase demand for preconception health services and for programs and policies that facilitate healthy living, including access to healthier food.

Use media campaigns with local role models to help raise awareness of healthy living, including growing, preparing/storing, selecting, and consuming fruits and vegetables.

Develop fact sheets to increase knowledge and awareness of preconception health among policy makers and state leaders.

### **Priority Population:**

**Men and women of reproductive age, general public, policy makers.**

## Ensure Quality Preconception Care and Practice among Health Care Providers and Community Health Workers

Both health care providers and community health workers have unique opportunities to provide preconception counseling and care for women of childbearing age. However, in a 2004 survey of women ages 18-44, only one of six obstetrician/ gynecologists or family physicians had provided preconception care to the majority of the women for whom they provided prenatal care.<sup>18</sup> Because approximately one-third to one-half of women have more than one primary care provider, all providers who routinely treat women for well-woman examinations or other routine visits have opportunities to screen, counsel, and treat women for identified risks. Community health workers offer support services to women and their families and can incorporate preconception health promotion into their daily encounters with women.



## GOALS

Promote health care provider/community health worker practice of assessing, counseling, and referring for preconception health issues, including reproductive life planning and healthy weight.

Increase overall ability of health care providers to counsel, prescribe, and refer patients for appropriate and high-quality family planning methods, particularly for women with chronic conditions.

Improve communication with and successful outcomes for patients, community health workers and providers of different ethnic and cultural backgrounds.

## STRATEGIES

Integrate preconception health messages into existing provider/community health worker materials and trainings.

Enhance options for health care provider trainings on preconception health (including reproductive life planning and contraceptive use for women with chronic conditions) through Folic Acid Campaign's Office Champion outreach model, online resources, continuing education programs, medical journal articles, speakers' bureau slides and written guidelines.

Design/obtain tools for health care provider and community health worker use on preconception health, including reproductive life planning and promotion of healthy weight.

Design/obtain reference cards/tools for health care providers for use for counseling and prescribing of family planning methods for women with chronic conditions, particularly obesity, hypertension, diabetes and cardiovascular disease.

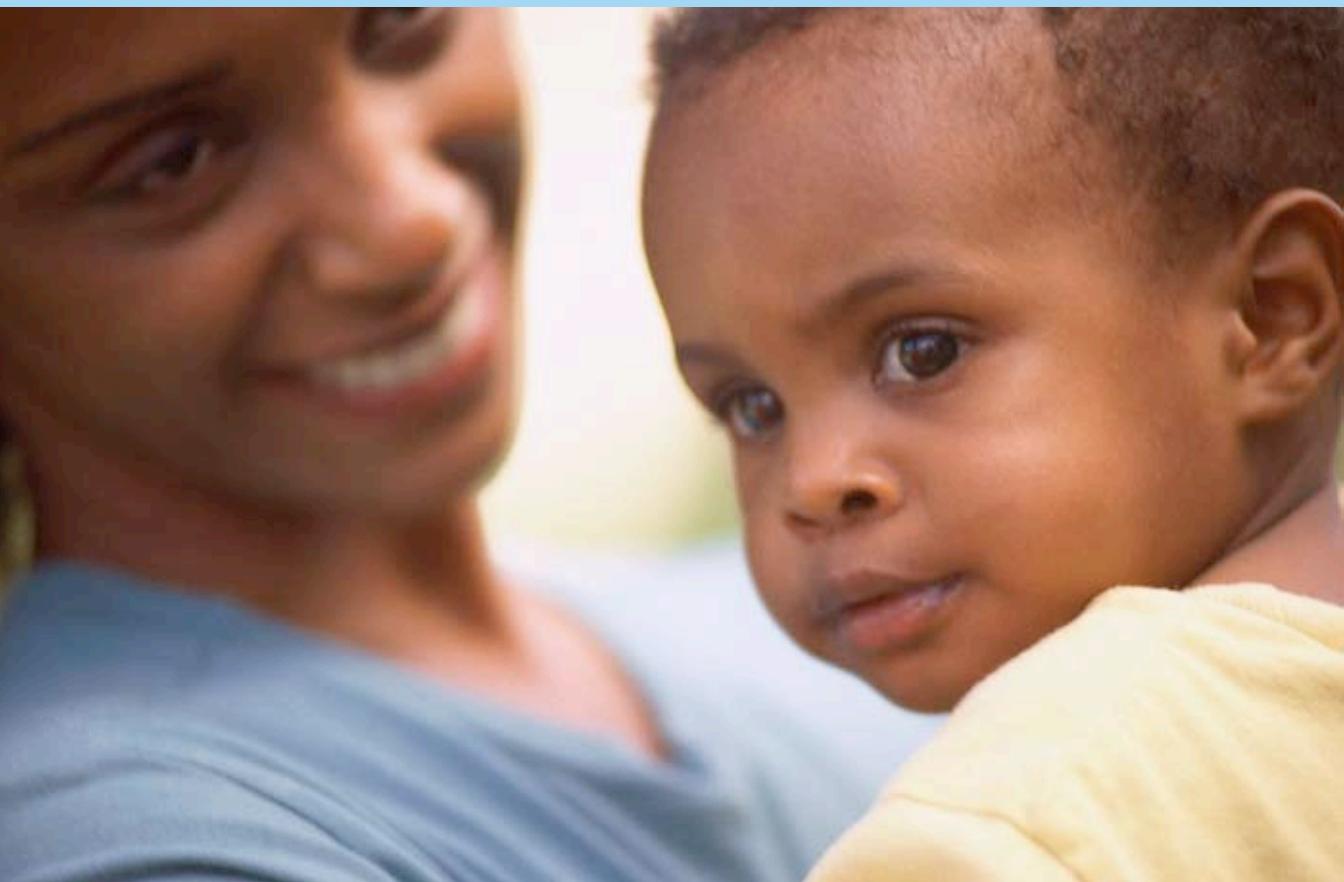
Promote provider/community health worker training on cultural awareness and sensitivity to enhance the relationship between providers and patients of different ethnic and cultural backgrounds.

### **Priority Population:**

**Primary care providers, obstetricians/gynecologists, pediatricians and community health workers in both public and private settings.**

## Expand Access and Affordability of Preconception Care

Opportunities to provide preconception care services and to educate women about preconception health are often limited to women who have insurance and access to routine, primary health care. Many providers report that limited time and compensation of primary care visits make it difficult to offer comprehensive care.<sup>19</sup> Since 1996, progress to improve the health of infants, including reducing the risk of low birth-weight and premature birth, has slowed. This is partly due to inconsistent delivery and implementation of interventions before pregnancy to detect, treat and help women modify behaviors, health conditions and risk factors that contribute to adverse maternal and infant outcomes. Health care payers and providers, along with public health professionals, should convene to review existing benefits, services, needs and gaps in care for high-risk women of childbearing age who are uninsured or underinsured.



## GOALS

Increase access to care for high-risk women who have had a previous high-risk pregnancy or poor birth outcome or who have a chronic medical condition, particularly among women of minority populations.

Decrease barriers in private and public health care systems that impede pregnancy planning and spacing.

Ensure availability of safe and effective family-planning methods for women with chronic conditions through both public and private health care systems and programs.

Increase utilization of primary health care services by women of reproductive age.

## STRATEGIES

Support expansion of public insurance to cover primary care services for women of reproductive age with chronic conditions or who have had a previous high-risk pregnancy or poor birth outcome.

Advocate that businesses provide access to health insurance.

Support efforts for expansion, enrollment and utilization of the N.C. Family Planning Medicaid Waiver through educational sessions for clients and providers, including sharing of patient survey summaries, trainings on billing, and other topics related to the waiver.

Ensure availability and coverage of safe, effective and long-acting family-planning methods for women with chronic conditions through both public and private health care systems and programs.

Increase utilization and improve quality of care of the postpartum visit.

Strengthen links between health care and social services to provide more comprehensive care, including mental health services.

### **Priority Population:**

**Men and women of reproductive age, public and private health care systems and insurance, private business sector.**

## Advocate for Environmental and Policy Changes that Support Preconception Health

To ensure health, the healthy choice must be the easy choice. For many of us, the places we work, live, and play do not facilitate healthy living. We need to work together so that our communities, places of employment, commercial establishments, and health care systems support us in our efforts to promote health and prevent disease.



## GOALS

Increase the supply of healthy food that is easily accessible, affordable and culturally appropriate for women of childbearing age.

Increase workplace, economic and social support for pregnancy, childbirth and breastfeeding.

## STRATEGIES

Assess and address barriers to increased healthy food consumption.

Advocate for local initiatives to improve access to healthy food such as farmers' markets, grocery stores, and community and school gardens.

Advocate and encourage the use of EBT cards in farmers' markets.

Connect locally grown food to local retail establishments.

Increase affordability by promoting cultivation and availability of local food, including seasonal fruits and vegetables.

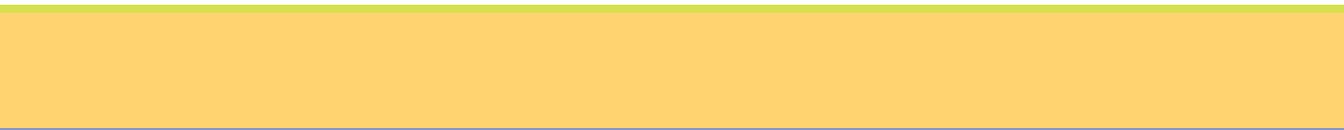
Provide training and incentives to small store owners in underserved areas to encourage them to carry healthier food items, such as fresh fruits and vegetables.

Advocate for new laws, policies and regulations that support pregnancy, childbirth and breastfeeding, including appropriate leave and breaks for pregnant women and new parents in the workplace.

Promote worksite wellness programs that integrate preconception health.

### **Priority Population:**

Grocery store owners, county and city councils, chambers of commerce, local farmers, parks and recreation departments, small business owners, employers, women of childbearing age.



# Appendix North Carolina Data for Women of Reproductive Age

In order to improve the preconception health of women of childbearing age in North Carolina, it is essential to understand the current health status among these women, who are between the ages of 18 and 44. The Preconception Health Leadership Team examined all available quantitative and qualitative health data for N.C. women aged 18- 44 years. A synopsis of these data follows.

## Health Status Indicators for Women of Reproductive Age

Indicator	All N.C. Women Age 18 - 44	Caucasian	African-American	Hispanic
Binge Drinking	11%	13%	9%	4%
Tobacco Use	24%	28%	21%	7%
Illicit Drug Use <sup>20</sup>	8%			
Meets Physical Activity Recommendations	53%	56%	47%	46%
Obesity	28%	25%	42%	25 %
Overweight	26%	24%	33%	26%
Hypertension	10%	9%	19%	7%
Diabetes	3%	3%	4%	2%
Poor Mental Health <sup>21</sup>	26%	29%	25%	14%
Postpartum Depression <sup>22</sup>	20%			
Uninsured	25%	17%	24%	73 %
Has Not Visited a Dental Clinic in Past Year <sup>23</sup>	31%	27%	31%	52%

Source: NC BRFSS 2007

## Pregnancy Planning

Indicator	N.C. Women Age 18-44
Pregnancy Unintendedness <sup>24</sup>	48%
Does Not Take Folic Acid at Least 5 Days a Week <sup>25</sup>	71%
May Not Be Rubella Immune <sup>26</sup>	14%

## Sexually Transmitted Infections

Sexually Transmitted Infections	Case Rate for All N.C. Women Age 18-44
Chlamydia	1234/100,000
Gonorrhea	451/100,000
Living with HIV/AIDS	240/100,000
Syphilis (PSEL)	7/100,000

Source: N.C. Division of Public Health, Communicable Disease Branch, 2007

# Qualitative Data

Women in North Carolina have been asked about their definition of health, their risks, and the challenges they face. Below are some of their responses.

## What North Carolina Women Say About...<sup>27</sup>

**Behavior Change:** Awareness is not enough to change behaviors. Knowledge of family history, family support and health care options are needed to facilitate behavior change.

**Stress:** Emotional, physical and financial stress can negatively influence a woman's health. Women expressed a need for more social support and networking.

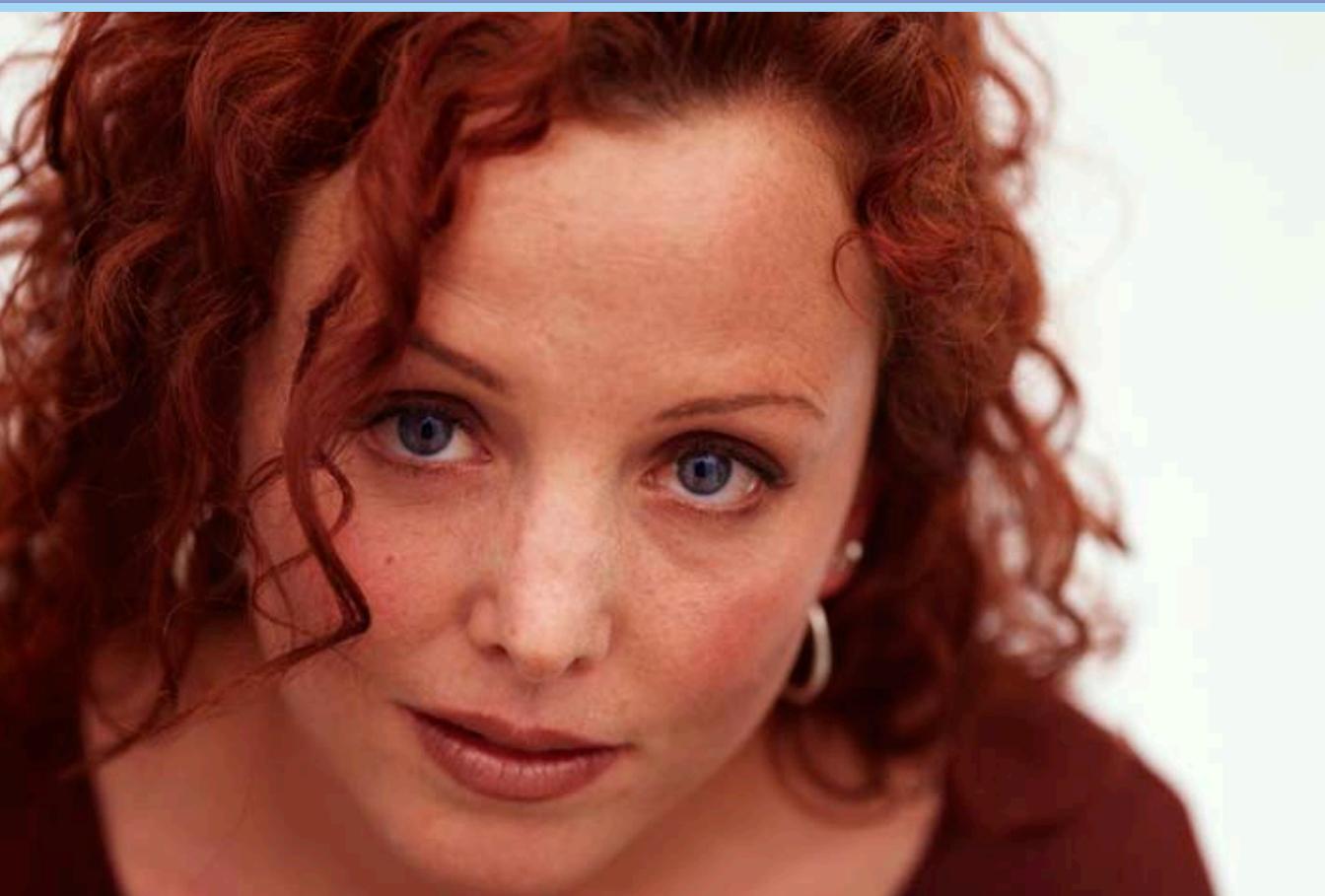
**Mental Health:** Issues such as depression are especially significant. Most communities lack resources to address mental health problems.

**Barriers to Health Care:** The most frequently mentioned barriers to care were cost, access, lack of insurance, racism, lack of trust and respect, childcare and transportation.

**Approach to Health Care:** Women prefer a holistic approach – biopsychosocial – not just by body part.

**Substance Abuse:** Many women reported that they knew someone struggling with drug addiction. Substance abuse was reported as a coping mechanism for extreme stress.

**Most Pregnancies Are Unplanned:** Women are concerned about becoming pregnant but don't use contraception. Some women report inconvenient clinic hours and quality of care problems with family planning services.



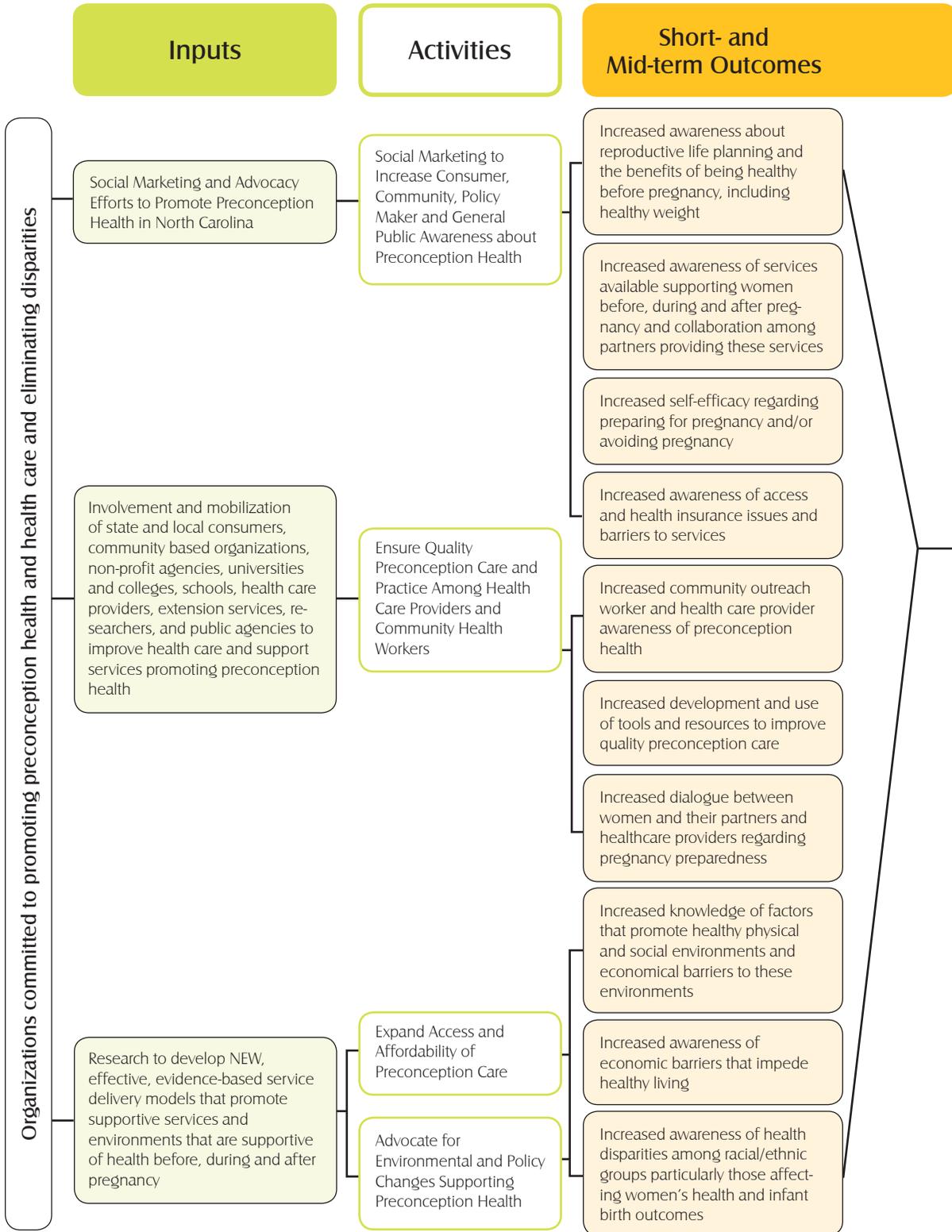
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# Logic Model N.C. Preconception Health Initiative



## Short- and Mid-term Outcomes

### Individual Level Outcomes

Increase in positive health behaviors in women such as healthy weight, reproductive life planning, and folic acid consumption

Increased utilization of primary care and family planning services by women of childbearing age

Decrease in negative health behaviors in women of childbearing age that hinder preconception health such as tobacco use, alcohol misuse and illicit drug use

Increased support for women living with chronic conditions in managing their conditions, and planning and preparing for pregnancy

Increased support for pregnancy preparedness in interactions with the health care system

### System Level Outcomes

Eliminating barriers to access to care through health insurance expansion for women of childbearing age, especially those at highest risk for poor pregnancy outcomes and those with chronic medical conditions

Increased partnerships and collaborations for greater effectiveness and efficiency in providing services and removing barriers to these services

Model systems approach to racial/ethnic minority health improvement and health disparities reduction

Education, health care, business and government systems implement policies that support pregnancy preparedness before conception

## Public Health Impact

- Reduction in risk behaviors and chronic health conditions for men and women of reproductive age
- Improved health of women of childbearing age
- Reduction in unintended pregnancy
- Increased percentage of women with birth interval >12 months
- Reduction in maternal and morbidity and mortality
- Reduction in premature births
- Reduction in birth defects
- Reduction in low birth weight births
- Decrease in teen childbearing rate

### Mission:

- Improved health of men and women of reproductive age and improved health of infants
- Reduced and ultimately eliminated racial/ethnic health disparities in women's health and birth outcomes
- Every man and woman has a reproductive life plan and enters pregnancy in optimal health

Policies, practices, and places that support the health of men and women throughout every stage of life and promote elimination of racial/ethnic health disparities











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