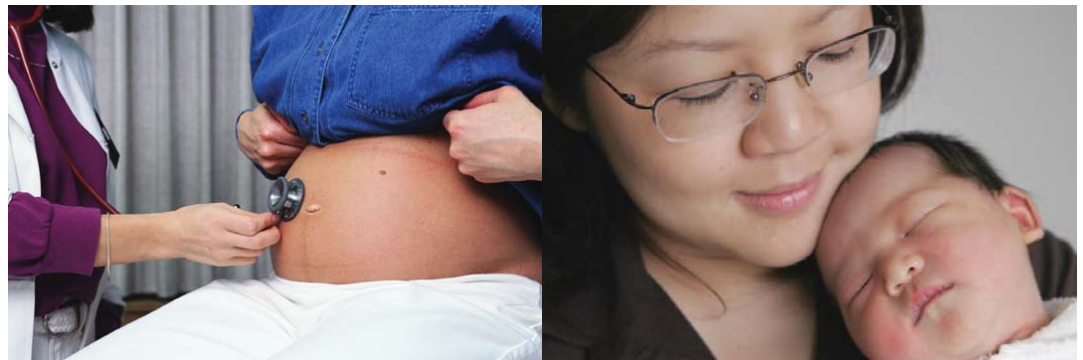


# Healthy Women, Healthy Babies

AN ISSUE BRIEF FROM TRUST FOR AMERICA'S HEALTH

Funded by a Grant from The Annie E. Casey Foundation



“ THIS IS ABOUT WOMEN'S HEALTH. HEALTHY WOMEN WILL HAVE HEALTHIER BABIES. ”

-- Merry-K. Moos, RN, FNP, MPH, FANN, Professor, Department of Obstetrics and Gynecology, University of North Carolina at Chapel Hill and Co-author (with Robert C. Cefalo, MD) of *Preconception Health Promotion -- a Practical Guide*.

## PART I: OVERVIEW

After 40 years of improvements, infant mortality rates in the U.S. have stalled since 2000.<sup>1</sup> Doctors fear that the rates may start to move in the wrong direction because the health of childbearing aged women is starting to get worse, and it is getting worse more rapidly among low-income women. The obesity epidemic and decreased levels of physical activity are starting to take their toll. Unfortunately, it is not just the health of the women themselves that is at stake. Poor

health puts both the women and their babies at greatly increased risk.

Traditionally, health services to improve birth outcomes have been focused on prenatal care during pregnancy and the time of birth. However, increasing evidence shows that how healthy a woman is even *before* she becomes pregnant has a great impact on the health of the baby and whether there is an increased risk for infant death or birth defects.

JUNE 2008

PREVENTING EPIDEMICS.  
PROTECTING PEOPLE.

## INFANT MORTALITY TRENDS

From 1960 to 1980, infant mortality rates, (the number of babies who die in the first year for every 1,000 live born babies), decreased from approximately 26 out of every 1,000 live births to 12.6.<sup>2</sup> Experts attribute this change to advances in care during the time of birth and family planning.

From 1980 to 2000, infant deaths dropped even further to 6.9 out of every 1,000 live births. This decrease was due to increased access to prenatal care for low-income women as well as new technologies for premature and tiny babies. Doctors stressed the importance of “prenatal” care -- health care visits during pregnancy. Policymakers expanded Medicaid prenatal care coverage at the state and federal levels.<sup>3</sup>

Twenty-six other industrialized nations had lower infant mortality rates than the U.S. in 2000.<sup>4</sup> And within the U.S., over the past 20 years, lower-income mothers are disproportionately more likely to have babies who die.<sup>5</sup>

Approximately 62 million American women are of childbearing age.<sup>6</sup> By the age of 25, about half of all women in the U.S. give birth. By age 44, 85 percent of women give birth.<sup>7</sup>

Each year, 12 percent of babies are born too early (premature), and 8.2 percent are born too small (with low birthweight below 5.5 pounds) – both put them at higher risk for infant death and for developmental disabilities.<sup>8</sup> Prematurity and low-birthweight rates are associated with health issues in the mother, such as diabetes, high blood pressure, or obesity. In addition, technologies used to increase fertility, such as IVF, increase these risks. Overall, approximately 30 percent of women who give birth have some form of pregnancy complication, many of these are related to the health of the mother.<sup>9</sup> Poor health can also greatly increase the risk for miscarriage or stillbirth. In addition to health concerns, the fiscal toll of these maternal and infant health problems is significant. For example, in 2005, the annual costs (medical, educational, and lost productivity) of preterm birth in the U.S. were at least \$26.2 billion and the average first-year medical costs were about 10 times greater for preterm than for full term babies.<sup>10</sup>

Many experts now believe that prenatal care, which usually begins during the first 3 months of a pregnancy, comes too late to prevent many of these serious maternal and child health problems. In recent years, they have begun calling for a different approach,

one that shifts the focus from pregnancy-related health services to better primary health care for women in their childbearing years (ages 15-44). This is meant to complement prenatal care. So, in addition to caring for women after they have become pregnant, health care providers would emphasize good health for all adult women and earlier interventions for those with chronic health conditions and risks. This will ensure that a woman will be in good health long before conceiving a child.

Experts are calling for an increased focus on “well woman” care, which focuses on keeping women healthier overall, and that a special emphasis needs to be placed on “preconception” care – understanding how a woman’s health affects the health of her children.

Starting care before conception matters because studies are increasingly showing that the early weeks after conception are critical for a baby’s development. Poor nutrition, lack of folic acid vitamins, too much alcohol, diabetes, tobacco smoke, toxic chemicals, and other risks can lead to miscarriage, birth defects, or slow fetal growth.<sup>11</sup> Often, women do not realize that they are pregnant at the outset and the first doctor’s visit typically does not occur before 6-12 weeks after conception.

Shifting to a preconception paradigm promotes pregnancy planning, contraceptive use, and action to improve health for women throughout their reproductive years. This increases the likelihood of women having healthy babies, if and when they want to do so.

This report attempts to identify the most important issues and obstacles facing the country in promoting preconception care, and recommends further actions to enhance women's health, and, consequently, to ensure healthier babies.

“THIS IS ABOUT HEALTH, EVERYDAY HEALTH. WE NEED A PARADIGM SHIFT THAT TAKES US FROM ANTICIPATION AND MANAGEMENT DURING PREGNANCY TO HEALTH PROMOTION AND PREVENTION BEFORE PREGNANCY. WE'RE NOT SAYING: 'YOU NEED TO GET HEALTHY IN CASE YOU GET PREGNANT.' WE'RE SAYING: 'YOU NEED TO GET HEALTHY.' IF THE WOMAN THEN BECOMES PREGNANT, SHE AND HER BABY WILL HAVE A BETTER CHANCE FOR A GOOD OUTCOME. IT'S REALLY ABOUT WOMEN'S HEALTH.”

-- Hani Atrash, MD, Associate Director for Program Development, National Center of Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention and lead for the CDC Preconception Health and Health Care Initiative.

“IT'S BEEN DONE A CERTAIN WAY FOR 40 YEARS. EVERY WOMAN IS SUPPOSED TO SEEK CARE DURING THE FIRST 3 MONTHS OF PREGNANCY. WHAT WE HAVE LEARNED IS THAT THIS IS GOOD -- BUT IT'S NOT GOOD ENOUGH.”

-- Magda Peck, ScD, Professor for Community Health, Department of Pediatrics, University of Nebraska Medical Center and Founder and Senior Advisor to CityMatCH.



## MEDICAID PRENATAL CARE: IMPROVED HEALTH FOR MOTHERS AND BABIES

Studies have shown that access to prenatal care has reduced maternal and infant mortality.<sup>12</sup> Prenatal care provides opportunities to identify and intervene for medical and social risk factors, connect families to preventive care, and improve women's health and survival. Prenatal care allows doctors to monitor for problems that arise during pregnancy and help women prepare for childbirth.

The Medicaid expansions for pregnant women have helped reduce financial barriers to early and continuous prenatal care for low-income women, with the expectation of improving pregnancy outcomes and saving money on high-risk newborns.<sup>13</sup> As enacted by Congress and implemented by the states, these policy changes had 4 facets: (a) expanded income eligibility; (b) streamlined enrollment procedures; (c) enhanced benefits/content of care (e.g., care coordination); and (d) increased reimbursement for obstetric services. States that implemented a multifaceted strategy to Medicaid prenatal expansions have been shown to be successful in improving the use of early and continuous prenatal care, and in some states the outcomes of pregnancy among this group of women with higher risk factors improved slightly.<sup>14</sup> Research has demonstrated the importance of getting women into care early and then providing both medical care and social support.

Studies have also shown that barriers to care continued to limit the potential impact of Medicaid prenatal expansions. Women who became eligible only after a confirmed pregnancy test experienced delays in enrollment and linkage to a provider.<sup>15</sup> All areas did not assure access to providers who delivered appropriate and quality care, and low-income and minority women were less likely to receive quality care. Provider payments were not adequate in many states and the regulations requiring adequate reimbursement have been repealed since 2000. The content of prenatal care generally did not conform to recommendations (whether publicly or privately financed). Finally, with managed care, few states continued to emphasize psychosocial interventions, effective care coordination, presumptive eligibility, and other such approaches that had shown results.<sup>16</sup>

Prenatal care is important and effective for intervening with risks that emerge during pregnancy; however, the impact of prenatal care on birth outcomes might be improved if:

1. The content of prenatal care were more reflective of expert recommendations, more consistent with women's needs, and appropriately financed.
2. Unequal treatment and barriers to appropriate care related to race and class were reduced.
3. Women had better routine access to medical care and other health services throughout their childbearing years.



## PART II: MOVING INTO A NEW ERA OF WELL-WOMEN CARE

Since 2004, the Centers for Disease Control and Prevention (CDC) has led an initiative to improve preconception health and health care. Based on the advice of a panel of experts, in 2006, CDC published a set of recommendations aimed at improving preconception health and health care in the U.S. The 10 recommendations stress 4 goals:

1. To use evidence-based approaches to improve the reproductive health knowledge, attitudes, and behaviors of men and women of childbearing age;
2. To promote universal access to high-quality preconception care, including screening, health promotion, and intervention;

3. To prevent subsequent morbidity and mortality for women who have had previous adverse outcomes; and
4. To reduce social and racial/ethnic disparities in both women's health and birth outcomes.<sup>17</sup>

CDC also provided the leadership to establish 4 working groups to examine a number of critical issues related to preconception care, including, clinical practices, consumer education, public health policies, and health care financing. Also, there have been 2 national summits to convene scientific experts, program leaders, and practitioners. These efforts have generated a new interest in preconception care to improve the health of women and infants before and between pregnancies.

### A. Improving preconception health care is one objective.

Attention to preconception care needs to become an integral part of primary and preventive care for all women and for all couples. Preconception care cannot be limited to a single pre-pregnancy visit. Such care should become a lifelong approach to health care that ensures good health across the span of a woman's reproductive life, beginning as early as childhood.

The purpose of preconception care is to provide health promotion/education, screening, and interventions to women of reproductive age to reduce risk factors that might affect future pregnancies. (See Figure I) Current "Guidelines for Perinatal Care" jointly issued by the American Academy of Pediatrics (AAP) and the American College of Obstetricians and Gynecologists (ACOG) recommend that "all health encounters during a woman's reproductive years, particularly those that are a part of preconception care should include

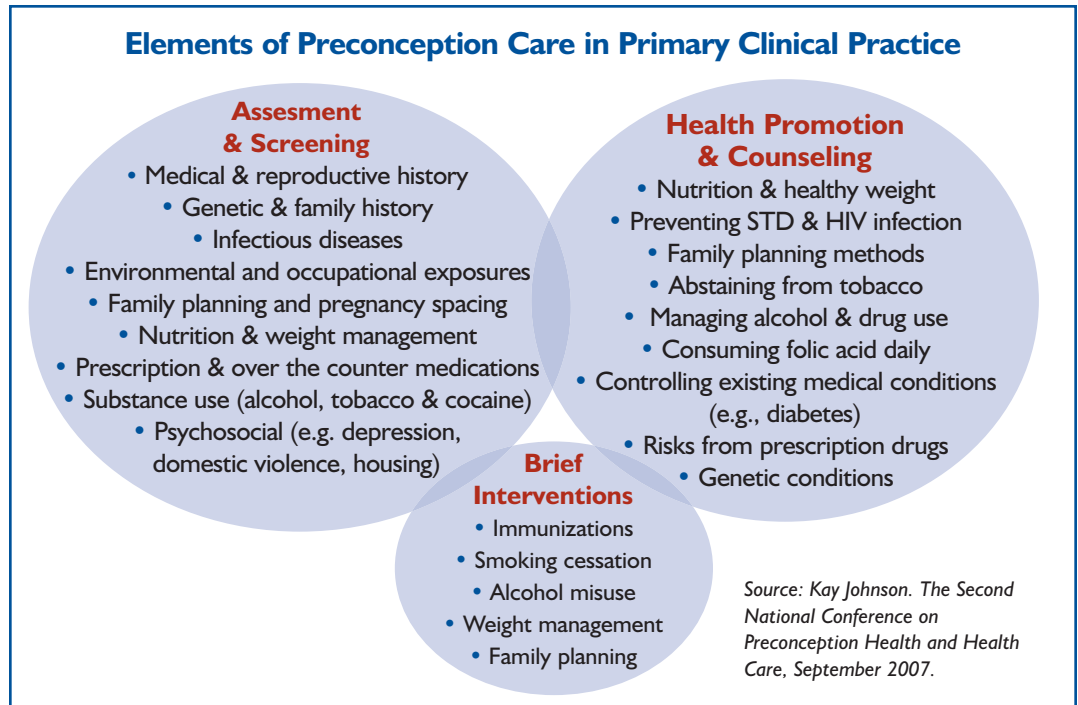
counseling on appropriate medical care and behavior to optimize pregnancy outcomes." This is analogous to the ongoing risk screening recommended and conducted today in the U.S. for cardiovascular disease risks.

As with other types of primary care health promotion and prevention efforts over the lifespan (e.g., prevention and management of heart disease, diabetes) preconception care should be tailored to meet the needs of the individual woman. For example, a survey of women in rural Pennsylvania found significant variations in risk by stage of life. Younger women (ages 18-34) had more gynecologic infections, more stress/mental health problems, and less favorable health behaviors (e.g., binge drinking, nutritional deficits, physical inactivity), while older women (ages 35-45) were more likely to have chronic conditions (hypertension, high cholesterol).<sup>18</sup>

“IN WELL WOMEN VISITS, EVEN JUST ASKING THE RIGHT QUESTIONS COULD BE A GOOD START: ‘ARE YOU PREGNANT? DO YOU PLAN TO BE? IF YOU DON’T WANT TO BE, WHAT ARE YOU DOING TO PREVENT A PREGNANCY?’ WOMEN ARE ASKED MORE OFTEN ABOUT THEIR CHOLESTEROL PREVENTION THAN THEIR REPRODUCTIVE HEALTH.”

-- Kay Johnson, MPH, EdM, Lead Author of the Centers for Disease Control and Prevention 2006 Guidelines on Preconception Care and Assistant Professor of Research, Dartmouth Medical School.

### Elements of Preconception Care in Primary Clinical Practice



Source: Kay Johnson. *The Second National Conference on Preconception Health and Health Care*, September 2007.

Changing clinical practice is not easy. As a first step, a clinical workgroup, engaging experts from across the country, has written clinical care guidelines for health providers.<sup>19</sup> This work compiles the evidence and approach for interventions from

diabetes and obesity through stress and poverty. The goal is for the medical community to incorporate these into the standards of routine medical primary care for all women from menarche (the onset of menstruation) to menopause.

### B. Public health agencies have an important role to play.

Better clinical health care is important but improving preconception health will require efforts that reach well beyond the doctor’s office. Public health and community projects across the country point to the important role of local health departments in promoting preconception health, linking women to needed services, and providing care in underserved areas. Some projects include efforts to reduce smoking, environmental hazards, and unintended pregnancies. Monitoring and

surveillance for community health risks are also key roles for public health.

Improving preconception health and care also will require increasing public awareness by involving women and couples, health professionals, and insurers. CDC and its partners are studying how best to communicate with women about the need for preconception care, whether they are teens entering their reproductive years or sexually active adult women who are trying to get pregnant.

## PART III: THE CHALLENGES

There are numerous reasons why women in the U.S. still experience relatively high rates of birth outcomes like infant mortality, preterm birth and low-birthweight. These factors, relat-

ed to the way the health care delivery system is structured and financed, as well as individual behavior place women at risk. Economic, environmental, and cultural factors all play a role.

### A. Health Disparities

Significant health disparities exist among various ethnic and racial groups in the U.S., with African-Americans among the hardest hit.<sup>20</sup> Non-Hispanic black infants, for example, had the highest infant mortality rate in the U.S. in 2005, more than twice that of white infants, 13.7 per 1,000 live births compared to 5.7 per 1,000 births among non-Hispanic whites. With respect to low birthweight babies, in 2005, African-American women had 13.6 low birthweight babies per 1,000 births, while non-Hispanic white women had 7.3 low birthweight babies per 1,000 births.<sup>21</sup>

Where women live – in cities or in isolated rural areas, for example – also can make a difference. Major factors that can have a profound influence on a woman’s health are not always connected to the medical system, but may be related to her neighborhood, family dynamics, her cultural history, her job status, and her stress level. Moreover, as documented by the IOM in a landmark report on unequal treatment, many women of color receive different counseling, screening, and treatment than their white counterparts.<sup>22</sup>

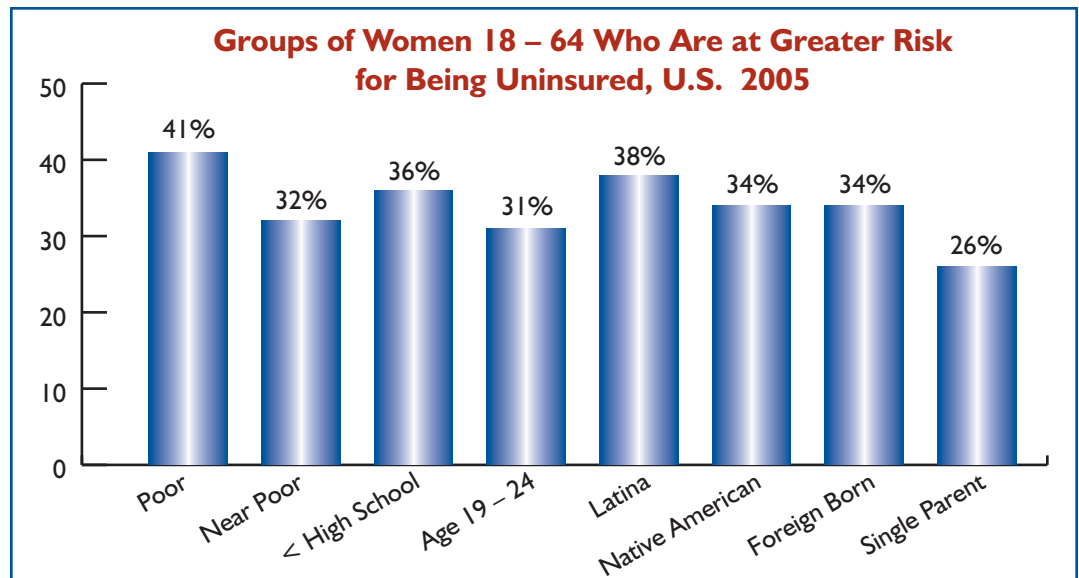
“ THIS IS ABOUT SOCIAL JUSTICE. INFANT MORTALITY IS A MEASURE OF SOCIAL WELL-BEING, NOT JUST HEALTH, AND NOT JUST ACCESS TO HEALTH CARE. POVERTY AND ECONOMICS AND NUTRITION AND EXPOSURE TO ENVIRONMENTAL FACTORS ALL PLAY A ROLE. WE HAVE TO LOOK AT THE WHOLE PICTURE. ”

-- Hani Atrash, MD.

### B. Insurance Coverage

Lack of health insurance poses a major disincentive to preconception care. Opportunities to deliver preconception care services are often restricted to those women who have regular access to health care, and are covered by insurance. Welfare reform legislation enacted in 1996 may have exacerbated this problem by causing many poor women to lose all or part of their public assistance and then, their Medicaid coverage. One study found that a 50 percent reduction in the welfare caseload –

which occurred during the 1990s – could cause up to a 7 percent decrease in first trimester prenatal care, up to a 5 percent decrease in the number of prenatal care visits, and as much as a 10 percent increase in low birth weight babies.<sup>23</sup> According to the Institute of Medicine (IOM), uninsured women receive fewer prenatal services and report greater difficulty in obtaining care than women with insurance.<sup>24</sup>



Although state and federal law limit the reach of the program today, Medicaid is an important source of coverage for low-income women. For the poorest non-pregnant women who qualify under state income eligibility criteria, Medicaid provides coverage for preventive, primary, and other health services. Such comprehensive coverage offers opportunities to screen for risks and treat chronic health conditions before pregnancy. Unfortunately, many low-income women will only qualify for Medicaid after they become pregnant.

Research shows that Medicaid coverage for prenatal care has limitations, primarily because it has not been well implemented in all states. Some examples illustrate the gaps.

- States can increase the level of reimbursement for prenatal care under the Medicaid program. Where reimbursement levels are inadequate, there is less likelihood that the prenatal services will be provided and/or that there are sufficient providers available.
- Many states do not extend “presumptive eligibility” to pregnant women. This is a mechanism by which safety net providers (e.g., community health centers, local health departments, public hospitals) can presume a poor pregnant woman eligible

for Medicaid and begin prenatal services, without waiting the full 45 days for eligibility processing. Moreover, many states that do offer presumptive eligibility have not developed the administrative mechanisms needed to make these arrangements work under managed care.

- Models for delivery of prenatal services for psycho-social risk factors have been shown to be effective for Medicaid-enrolled pregnant woman. From California to North Carolina, states have shown the health benefits and potential cost effectiveness of identifying and intervening for psycho-social risks (e.g., smoking, alcohol use, domestic violence). Other states could more actively promote use of these important elements of prenatal care for low-income, higher risk women.
- Providers have made limited use of the 60-day postpartum coverage required under Medicaid. National data indicate that, even in Medicaid managed care, only 50 to 60 percent of women receive their postpartum visits. Such visits are the start of interconception care (family planning services) and provide an opportunity to screen for depression, offer family planning, and provide a well-woman check up.



## C. Clinical Practice

Even when women do have access to health care, physicians may shy away from discussing childbearing decisions with their patients and often do not screen for reproductive health risks. Women of childbearing age visit their physicians an average of 3 times per year, and three-quarters of U.S. women ages 18 to 44 have a health care visit each year, and most women of reproductive age obtain preventive health services in any given year.<sup>25</sup> These encounters are opportunities for health care providers to deliver preconcep-

tion care and important messages about preparing for a healthy pregnancy in the future if this is what they choose. A review of preconception care clinical practices found that most of these opportunities are either missed or foregone.<sup>26</sup> Another study showed that primary care providers often miss opportunities to intervene when they know women have identified risks.<sup>27</sup> On the positive side, a few studies point to opportunities to improve practice through more routine use of screening for example.<sup>28</sup>

## D. Health Conditions and High Risk Behaviors Affect Pregnancy Outcomes

Many women of childbearing age suffer from chronic conditions, such as diabetes, obesity, or asthma, or engage in dangerous behaviors, such as smoking, drinking alcohol or abusing

drugs, that can have a harmful effect on a developing fetus. They also may be exposed to toxic substances through prescribed medications, the environment, or at their workplace.

### Chronic Diseases and Conditions

According to CDC data, in 2002:

- An estimated 6 percent of adult women between the ages of 18 and 44 had asthma;
- 50 percent were either overweight or obese. Obesity among women of reproductive age increased from 13 percent in 1995 to 22 percent in 2005.<sup>29</sup>
- 3 percent had heart disease;
- 3 percent suffered from high blood pressure;
- 9 percent had diabetes; and
- One percent had thyroid disease.<sup>30</sup>

A recent study conducted by CDC and Kaiser Permanente Northwest Center for Health Research showed that obesity during pregnancy is associated with greater use of health care services and longer hospital stays.<sup>31</sup> Using data from 13,442 pregnancies between 2001 and 2004, the researchers found that – compared with pregnant women of normal weight – obese pregnant women experienced longer hospital stays and more obstetrical ultrasounds, required more outpatient medications, and were more likely to be seen by physicians, rather than nurse midwives or nurse practitioners. Also, Cesarean delivery rates were 45.2 percent for extremely obese women, compared to 21.3 percent for pregnant women of normal weight.<sup>32</sup>

“ OBESITY IS A VERY DIFFICULT ISSUE. HALF OF THE WOMEN WHO ARE MORBIDLY OBESE ARE ENDING UP WITH C-SECTIONS. ”

-- Charles S. Mahan, MD, Dean and Professor Emeritus at the University of South Florida College of Public Health and Founding Director of the Lawton and Rhea Chiles Center for Healthy Mothers and Babies.

## At-Risk Behaviors

Also, according to CDC data:

- 11 percent of pregnant women smoked throughout their pregnancies.
  - ▲ Women who smoke during pregnancy are more likely than nonsmokers to have a low birthweight or preterm baby.
  - ▲ Babies of smokers weigh, on average, 200 grams less than nonsmoker's, babies.<sup>33</sup>
- 10 percent of pregnant women drank alcohol.<sup>34</sup>
  - ▲ Heavy alcohol consumption during pregnancy can lead to a combination of physical and mental birth defects called Fetal Alcohol Syndrome (FAS), which affects one in 1,000 newborns annually.
  - ▲ Alcohol abuse is the leading known preventable cause of mental retardation.<sup>35</sup>

## E. Reducing Risk, Improving Outcomes

Many health conditions and high-risk behaviors can be successfully managed or controlled before a woman becomes pregnant, increasing her chances of giving birth to a healthy baby. Preconception care is the strategy to reduce these risks.

CDC and other groups have identified a series of established risks that can adversely affect pregnancy, and steps that can be taken *before* a woman becomes pregnant to reduce the chances of a bad outcome. There is considerable evidence that taking steps to address these risks well in advance of pregnancy will enhance the chances of having healthier babies.<sup>36</sup> These include:

- **Diabetes management.** Controlling blood sugar substantially reduces the threefold increase in birth defects among infants of diabetic women.
- **Obesity control.** Reaching a healthy weight before becoming pregnant reduces the risk of neural tube defects, Cesarean section, hypertensive (high blood pressure) and thromboembolic (blood clots) disease that are associated with obesity.
- **Smoking cessation.** Smoking is associated with premature delivery and low birth weight, among other things. It raises the risk of miscarriage, cleft lip or cleft palate, and problems delivering nutrition through the placenta, which is the source of the baby's nutrition and oxygen during pregnancy. A recent study also showed that mothers who smoke early in pregnancy are more likely to give birth to infants with heart defects.<sup>37</sup> In addition to improving her own health, a woman can prevent these problems for her infant if she stops smoking before becoming pregnant. The 2004 Surgeon General's report found that only 18 percent to 25 percent of all women who smoke quit once they become pregnant.<sup>38</sup> Too few primary care physicians use smoking cessation programs that have been shown to be effective as part of routine practice.
- **Eliminating alcohol abuse.** Frequent or binge drinking is associated with fetal alcohol syndrome and other alcohol-related birth defects. Fetal alcohol syndrome is characterized by abnormal facial features, growth deficiencies, and central nervous system problems. Children born with fetal alcohol syndrome can have difficulties with learning, memory, attention span, communication, vision, hearing, or a combination of these.<sup>39</sup> If a woman stops drinking before becoming pregnant, she can prevent these disorders in her baby. Studies have shown that primary care physicians can reduce frequent and binge drinking among women of childbearing age through brief, office- or clinic-based interventions.<sup>40</sup>

- **Acutane use management.** Acutane is a prescription medication for acne that can cause miscarriage and birth defects. Women who use this product and others in this class of drugs, known as isotretinoin, should stop before becoming pregnant. Pharmacists and physicians play a key role here.
- **Vaccinations.** Women need protection against influenza, Hepatitis B and Rubella (commonly known as German measles), each caused by a virus. Vaccinations are available to prevent all of these illnesses. A pregnant woman with Hepatitis B (HBV) can transmit the infection to her fetus. Infection with HBV can cause liver damage, liver failure, liver cancer, and death. A Rubella infection in the mother can cause congenital rubella syndrome in her infant. This can result in serious birth defects.
- **Folic Acid.** Women of reproductive age should take folic acid supplements. Taking folic acid reduces by two-thirds the occurrence of defects in the neural tube, or fetal spinal column, the precursor to the central nervous system. Folic acid intake has increased since the FDA approved grain fortification; however, to prevent birth defects most women need to take a vitamin to supplement the folic acid they get from their diet.
- **Hypothyroidism management.** Hypothyroidism occurs when the thyroid gland does not produce enough hormones. Hypothyroidism is treated by replacing the thyroid hormone the body needs. This is usually done with an oral tablet of the thyroid hormone thyroxine (T4 or levothyroxine). Adjusting the dosage of the drug early in pregnancy to higher levels will ensure proper neurological development in the fetus.
- **Maternal phenylketonurea (PKU).** This is a genetic disorder characterized by the body's inability to process and use the essential amino acid, phenylalanine. Amino acids are the building blocks for body proteins. Women diagnosed with PKU as infants have an increased risk for delivering babies with mental retardation. However, this can be prevented when pregnant women follow a diet low in phenylalanine before conception and continue it throughout their pregnancy. (For example, avoiding high protein foods, such as meat, fish, poultry, eggs, cheese, milk, dried beans, and peas and eating measured amounts of cereals, starches, fruits, vegetables and a milk substitute.)
- **Anti-epileptic drugs.** Certain drugs to treat epilepsy, a common chronic neurological disorder characterized by recurrent unprovoked seizures, are known teratogens, that is, agents that cause birth defects in a developing fetus. Valproic acid is one example. Women who must take these drugs for epilepsy control and want to become pregnant should be prescribed a lower dose. Again, both pharmacists and physicians play a key role in helping women understand risks and use appropriate medications.
- **Oral anticoagulant use management.** Warfarin, a drug frequently used to control blood clotting, is a known teratogen, that is, a substance that causes birth defects. It is important for women who plan to become pregnant to switch to a safer drug before becoming pregnant.
- **HIV/AIDS screening and treatment.** If HIV infection is identified before a woman becomes pregnant, she can take anti-retroviral medications to reduce the chances of transmitting the virus to her baby. Knowing in advance also provides an opportunity for women and/or couples to obtain additional information that can influence the timing of pregnancy and treatment.
- **STD (sexually transmitted diseases) screening and treatment.** Chlamydia trachomatis and Neisseria gonorrhoeae are 2 sexually transmitted diseases that are strongly associated with ectopic pregnancy, which

occurs when a fertilized egg has implanted outside the uterus, usually in a fallopian tube. These infections in the mother also can result in infertility and chronic pelvic pain. STDs during pregnancy can cause fetal death or substantial physical and developmental disabilities, including mental retardation and blindness. Early screening and treatment in the mother can prevent these dangerous outcomes.

■ **Dental care.** Emerging research points to a link between a mother's periodontal disease and premature birth for her infant. There also is a direct link between a mother's oral health and her offspring's risk for dental caries, or tooth decay. Women with high rates of dental caries should use fluorides and dietary measures to reduce the transmission of bacteria responsible for tooth decay.

## PART IV: FEDERAL, STATE, AND LOCAL INITIATIVES

“ IT TAKES A COMMUNITY TO BUILD A CULTURE OF WELLNESS THAT REALLY SUPPORTS AND PROMOTES PHYSICAL ACTIVITIES AND EXERCISE, EATING BETTER, PHYSICAL ACTIVITY IN THE SCHOOLS, ETC. THE CULTURE HAS TO CHANGE SO WOMEN CAN FIND THEMSELVES IN AN ENVIRONMENT THAT SUPPORTS CHILDBEARING YEARS LONG BEFORE THEY BECOME PREGNANT.”

-- Maxine Hayes, MD, State Health Officer, Washington State Department of Health



## FEDERAL PRENATAL AND PRECONCEPTION HEALTH PROGRAMS

- **Centers for Disease Control and Prevention.** Under the leadership of the National Center on Birth Defects and Developmental Disabilities and the National Center for Chronic Disease Prevention and Health Promotion, CDC has created the Preconception Health and Health Care Initiative. Since 2004, more than 22 units across all CDC centers have been involved in analyzing current research, convening experts, summarizing state and local programs, and gathering public health surveillance data.
- **Community Health Centers,** authorized under section 330 of the Public Health Service (PHS) Act, provides grants to local, non-profit, community-owned health clinics in 3,600 low-income, medically underserved, urban and rural communities. Health centers are an important source of primary care for millions of low-income and uninsured women. Nearly 30 percent of all patients are women of childbearing age, and health centers provided prenatal care to over 330,000 women in 2003.
- The **Eunice Kennedy Shriver National Institute of Child Health and Human Development** was initially established to investigate the broad aspects of human development as a means of understanding developmental disabilities, including mental retardation, and the events that occur during pregnancy. Part of the National Institutes of Health, the Institute currently conducts and supports research on all stages of human development, from preconception to adulthood. Reducing infant deaths, improving the health of women and families, and examining, preventing and treating problems of birth defects, mental retardation, and developmental disabilities are all part of the Institute's mandate.
- The **Family Planning program,** authorized under Title X of the PHS Act, is the only Federal program solely dedicated to family planning and reproductive health with a mandate to provide a broad range of voluntary, affordable, and effective family planning methods and services. Funds to grantees -- including state and local entities -- support contraceptive information and services, as well as screening for cancer, sexually transmitted diseases, and HIV.
- The federal **Healthy Start Infant Mortality Reduction program** provides grants to communities under Section 330H of the PHS Act. Healthy Start projects operate in 97 communities in 37 states where the infant mortality rate is above 150 percent of the national average. Healthy Start grantees are required to include both prenatal and inter-conception care activities as part of their overall project.
- The **Maternal and Child Health Services Block Grant** operates under Title V of the federal Social Security Act. This program provides funds to states to improve the health of women and children. States have discretion in choosing how to distribute the funds, based on state needs. A number of states have dedicated Title V funding specifically to promoting preconception health and many have set out this topic as a priority for the next 5 years.
- **Medicaid** is a federal-state partnership that provides health coverage for persons with low-income and/or disabilities. For women, eligibility is most likely to be related to pregnancy or disability or very low income for non-pregnant women (below \$5,000 per year on average). Medicaid is a large and important source of coverage for both prenatal and family planning services. In 26 states, so called Medicaid "family planning" waivers extend coverage for contraceptive counseling and services, sexually transmitted disease testing, and related screening for low-income women (and in some states men). These are a portion of the pre- and interconception services low-income women need.

## Healthy Start Infant Mortality Reduction Projects

Since 1992, federally funded Healthy Start Infant Mortality Reduction Projects have designed a variety of approaches to reduce infant mortality and morbidity in some of the nation's highest risk cities, neighborhoods, and communities. Beginning in 2001, interconception care became formally included as one of the 9 core components of Healthy Start in recognition of its important role in eliminating disparities and improving maternal and infant outcomes. The purpose of the Healthy Start interconception care program is to improve the health of high-risk women (i.e., those who were identified during hospitalization as being at increased risk for maternal complications, who had inadequate prenatal care or a pre-existing medical condition, and/or who had a fetal loss, an infant born at very-low or low birthweight, or a neonatal death).

The 4 elements of high-risk interconception care in Healthy Start, as defined in federal guidance for 2001, were: (1) early identification of high-risk women and high-risk infants during hospitalization; (2) linkage to primary care and specialty care for high-risk women of reproductive age; (3) linkage to Title V, Medicaid, and other early intervention services for high-risk infants; and (4) increased use of health care and related services by high-risk women and infants during the interconception period.

Most of the 35 Healthy Start grantees use care coordination and case management as the primary approach to improving interconception health and health care, often through home visiting. Grantees pay specific attention to postpartum clinic visits, fami-

ly planning visits, and well-woman visits in the postpartum period. Tens of thousands of high-risk, low-income women have been screened for risks and adverse health conditions. Success in assuring direct care services correlates with linkages to primary care clinics such as federally qualified health centers or hospital outpatient clinics.

The following examples highlight the results of Healthy Start efforts.

- In Augusta, Georgia, Enterprise Community Healthy Start significantly increased the percentage of participating women who had an ongoing source of primary care.
- Boston Healthy Start aimed to have 70 percent of participants during the interconception period receive an annual physical during the first and second year. By May 2005, they had reached and exceeded this target (80 percent).
- The Fresno, California project achieved its objective to increase to at least 90 percent the number of postpartum women in case management who receive interconception services.
- The Pittsburgh project reached its objective to increase to at least 75 percent the proportion of participating postpartum women who receive interconception services from a medical provider.
- The Southern Oregon project achieved and exceeded its objective to develop the capacity in a community health center to provide medical homes for 200 high-risk women in the interconception period

## STATE AND LOCAL PRECONCEPTION HEALTH CARE ACTIVITIES

Local and state health departments, medical facilities, and other organizations have found creative ways to use existing funds or find additional money to deliver preconception or interconception services. These services are not always labeled "preconception care," and often go beyond the usual

maternal and child health programs. However, the goals are the same – to promote healthier lives for women that translate into healthier babies. The following are some examples, many of which have grown out of partnerships with CDC and/or the March of Dimes.

## CALIFORNIA

In 2007, a coalition of public and private leaders launched the Preconception Care Council in response to the CDC preconception health recommendations. California's Council has established 3 working groups (clinical/research, finance/policy and public health/consumer) to develop action plans for each specific area and to work with local health agencies to implement them. These include creating educational materials for health providers and informing state legislators about the importance of preconception care and its role in health reform measures. The state is also developing a preconception care web site to serve as a resource for those interested in preconception health and its related health issues. The state supports the effort using Title V Block Grant funds.<sup>41</sup>

In a related effort, the March of Dimes, the California Academy of Family Physicians,

and the American College of Obstetrics and Gynecology District IX, among others, distributed educational packages to state health care providers to encourage them to integrate preconception care into their practices. The materials represent the work of 30 health care professionals and their organizations, including the University of California San Francisco, University of California Los Angeles, the University of California Irvine, the University of Southern California, Kaiser Permanente, the California Department of Health Services, Sutter Medical Center Sacramento, Sutter Medical Group, the Alameda Alliance for Health, Cal OPTIMA, Genzyme West Coast Genetics, the North Bay Healthcare Medical Group, the Orange County Perinatal Council and the South Los Angeles Health Projects.<sup>42</sup>

The Preconception Care Council (PCCC) is a statewide forum for planning and decision-making for the integration, development and promotion of preconception care. PCCC will engage stakeholders in a process to increase awareness, availability and access to preconception care for women of childbearing age in California. PCCC will achieve consensus on goals, objectives and activities developed to implement the National Select Panel Recommendations for the Nation on Preconception Care. PCCC will prioritize issues through regular meetings of a multi-disciplinary committee and issue specific workgroups. PCCC will provide direction for:

- Integration of preconception care in clinical and public health practice;
- Development of financial and public policy strategies to support and sustain preconception care; and
- Promotion of key preconception care messages to women of reproductive age in California.

### Every Woman Every Time Project

Created in 1989 through a partnership between Sutter Medical Center in Sacramento and the March of Dimes, this project conducted a meta-analysis of the preconception care literature and used this information in a consensus development process to produce a marketing packet for providers. Key components of the packet 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. An evaluation found that among 187 providers responding, 75 percent indicated the information was very useful, 80 percent said they would distribute materials to patients, and 72 percent said they would use the billing codes provided.<sup>43</sup>

## DELAWARE

In May 2005, Delaware's Infant Mortality Task Force's final report outlined a 3-year plan with 20 recommendations to reduce the high infant mortality rate in the state. The resulting Delaware Healthy Mother and Infant Consortium (DHMIC) appointed 5 critical area committees to monitor implementation of the Infant Mortality Task Force recommendations including systems of care, standards of care, health disparities, health education and prevention, and data and science. They also call for expanded access to comprehensive reproductive health and family planning services for the uninsured and underinsured. The results also included implementation of a statewide educational campaign and cultural competence curriculum for providers.<sup>44</sup>

The Delaware Division of Public Health has led implementation efforts. In 2006 the Division of Public Health, (DPH) selected 2 contractors, Delmarva Rural Ministries, Inc., and Westside Health, Inc., to expand wrap-around services in preconception, prenatal, and postnatal care to women residing in specific zip codes where the number of infant deaths was high compared with other regions,

and women who had a history of poor birth outcomes. DPH also provided nearly \$1.5 million in contracts to Christiana Care Health System and Planned Parenthood of Delaware to provide education, nutrition, clinical, and community support services for women at high-risk of having unplanned pregnancies and poor outcomes. Christiana Care will also partner with the Delaware Chapter of the March of Dimes to provide patient and physician education. Planned Parenthood of Delaware plans to use their grant from the state to further educate women about the importance of eating well and getting help for chronic health problems like obesity and hypertension and to work with higher-risk patients by helping them get the resources they need to improve their health.<sup>45</sup>

Ongoing population-based monitoring is another facet of Delaware's efforts. The Fetal Infant Mortality Rate (FIMR) committee established 3 full-time staff positions to implement the program. The state added the Pregnancy Risk Assessment and Monitoring System (PRAMS), beginning annual data collection January 1, 2007.





## FLORIDA

The Florida Department of Health included preconception and interconception health and well-being as one of its Title V program's top 10 priorities through 2010. The state offers several preconception services through its Healthy Start program, including preconception counseling, identifying risks for poor birth outcomes and treatment that extends from a woman's pregnancy to delivery and beyond. Unlike the federal Healthy Start program, which funds the local program to provide service only to low income families, Florida's program is offered to all women in the state's 67 counties, regardless of income or risk status. Counseling services include education on birth spacing, folic acid, smoking cessation, nutrition, and breastfeeding, among other things.

In the fall of 2004, Florida Healthy Start initiated an Interconceptional Care and

Counseling component through collaboration with Healthy Start Coalitions and Healthy Start providers, and subsequently integrated into existing Healthy Start programs without additional funding. Providers, including nurses, social workers, health educators, and paraprofessionals in Healthy Start programs throughout the state were being trained to provide education in a culturally sensitive manner that was applicable to the participant and their assessed risk factors. Technical assistance guidelines were also developed for use in Florida's county health departments. Educational components of both these initiatives 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>46</sup>

## GEORGIA

The Interpregnancy Care (IPC) program at Grady Memorial Hospital in Atlanta provided primary health care and dental services, enhanced case management and other outreach services to African-American women who delivered a very low birth weight infant at the hospital and who qualified for indigent or charity care. The IPC program provided 24 months of primary health care and dental services, enhanced nurse case management, and outreach in the community setting via a Resource Mother. Health care visits were offered to address 7 key areas linked to LBW delivery: (1) poorly-controlled chronic diseases; (2) short interpregnancy intervals; (3) reproductive tract infections; (4) periodontal disease; (5) nutritional disorders; (6) substance abuse; and (7)

psychosocial stressors, including depression and domestic violence. Group educational experiences were an integral part of the services. Home visits and telephone contact were offered twice monthly. Primary care and outreach services were delivered by a team comprised of a family physician, nurse midwife/family nurse practitioner, dentist, nurse case manager, and Resource Mother. Evaluation of the women retained in the pilot program indicated that approximately one-quarter of them were affected by unrecognized or poorly managed chronic health problems and none of the participants wanted to become pregnant during the next 2 years. Success was achieved in delaying subsequent pregnancies.<sup>47</sup>

## PUTTING IT ALL TOGETHER IN ILLINOIS

Public and private sector leaders in Illinois have worked collaboratively to implement a series of policy and practice changes; Illinois has been “putting it all together” to improve women’s health and expand preconception care.

Illinois has approximately 2.7 million women of childbearing age (15 to 44 years). The state has an average of about 184,000 live births annually, of these births more than half are financed by Medicaid and other publicly subsidized health coverage.

In 2003, the Illinois General Assembly passed legislation that required the Illinois Department of Healthcare and Family Services (DHFS) to assess and provide recommendations for perinatal health in Illinois. DHFS subsequently created a new bureau for “Maternal and Child Health Promotion” dedicated to improving birth outcomes and launched the Illinois Healthy Women initiative, a 5-year demonstration project designed to improve the health outcomes of women and their future children by expanding access to women’s health care services.

Illinois Healthy Women has resulted in several Medicaid service improvements and expansions intended to improve women’s health. These include: coverage for adult preventive care and risk assessments (e.g., piloting preconception), recommended content of annual preventive (preconception care) visits, and outreach to locate high-risk pregnant women. The interconceptional care strategy includes the 3 components -- identification of risk/chronic condition, provision of a medical home, and care management. Within Medicaid, DHFS also has implemented a primary care case management (PCCM) model to: provide a primary care “medical home,” pay a monthly care management fee to providers and use a pay-for-performance strategy. The program permits ongoing monitoring, tracking and provider feedback, and allows direct access to certain services, such as OB/GYN and behavioral health.

Illinois also obtained a waiver under State Children’s Health Insurance Program (SCHIP) to operate Family Care, which provides health insurance coverage to parents with income equal to or less than 90 percent of the Federal Poverty Level. For FY 2005, Governor Blagojevich requested funds to increase the eligibility threshold for Family Care from 90 to 133 percent of the federal poverty standard. Such extensions of family coverage provide access to interconception care for women additional low-income families.

Working together, DHFS, Illinois SCHIP, and private sector partners have developed a comprehensive perinatal depression initiative which includes reimbursement for risk assessment, a toll-free provider consultation line, a 24-hour crisis hotline, development of viable statewide referral and treatment resources, and provider training.<sup>48</sup> In 2004, the state’s Department of Healthcare and Family Services began reimbursing providers for perinatal depression screening in mothers of Medicaid recipients. The state health department and the Illinois Academy of Pediatrics are trying to make providers aware of this benefit. Changes in Medicaid billing permit and encourage maternal depression screening during pediatric visits. More than 40 practices across the state have been engaged in the pilot work. The Illinois Chapter of the American Academy of Pediatrics was actively involved in encouraging and training pediatricians.

Illinois has relied upon using public/private partnerships to scientifically test interventions and use the data from the evaluation to make decisions on future service expansions. Partners include: Michael Reese Health Trust, Illinois Children’s Healthcare Foundation, Chicago Community Trust, Harris Foundation, Steans Family Foundation, Illinois Chapter March of Dimes, provider organizations and universities. Through such partnerships, state leaders are testing a number of strategies for improving birth outcomes. For example, the following studies and pilot projects are underway:

- A medical record review project to assess the content of prenatal care in certain high-risk communities.
- Case management services to women during and after pregnancy, and testing an outreach model for hard-to-reach pregnant women who are currently pregnant but who did not use case management services during their previous pregnancy.
- An innovative interconception care model in 2 communities to identify women who previously had a poor birth outcome and provide interventions to help them address issues related to the poor birth outcome before becoming pregnant again.
- Work with the state Quitline to identify and refer pregnant women for assistance with smoking cessation. (The state also provides reimbursement for smoking cessation pharmaceutical products and is working on training providers).
- A pilot preconception risk assessment tool.

## NEW YORK

The Comprehensive Preconception and Interconception Program at Montefiore Medical Center in the Bronx (the university hospital and academic medical center for the Albert Einstein College of Medicine) began in 2004 with startup support from the March of Dimes. It aims to identify patients of reproductive age with health conditions or illnesses that could cause problems during pregnancy. The goal is to raise awareness among the health professionals who treat these women for their specific ailments and make them sensitive to the fact that their patients

could experience a high-risk pregnancy if they conceive. The specialists refer these patients to the obstetrics and gynecology department for preconception evaluation and counseling. Women with a history of high-risk pregnancies are also referred. Additionally, the medical center now requires physicians to write and enter prescriptions into electronic patient medical records. The system is designed to issue a prompt if the patient is pregnant or nursing, so that doctors do not recommend drugs that may cause birth defects or other problems.

“ONE OF THE PROBLEMS THESE SUB-SPECIALISTS HAVE IS THAT THEY BECOME SO FOCUSED ON THE PROBLEM, ON THIS COMPLICATED MEDICAL PROBLEM, THAT THEY LOSE TRACK OF OTHER IMPORTANT RELATED ISSUES, SUCH AS PREGNANCY. PEOPLE ARE TAKING A WHILE TO CATCH ON, BUT IT’S HAVING AN IMPACT.”

-- Peter Bernstein, MD, Associate Professor of Clinical Obstetrics and Gynecology and Women’s Health at Einstein College of Medicine/Montefiore Medical Center.

## WASHINGTON

In Washington State, Governor Gregoire convened a preconception care summit and called for state government to set an example by becoming a model of “wellness.” State agencies encourage employees to exercise, eat healthy foods, stop smoking, and lose weight, among other things. The state also has joined with the March of Dimes to create a Healthy for Life council, made up of about 30 representatives from local and state agencies, private organizations, and stakeholders to serve as “ambassadors” within their own communities in delivering messages of health. The idea is to

go beyond maternal and child health programs and introduce healthy concepts throughout the state via its 39 counties and 34 health jurisdictions, its college campuses and school districts, workplaces, and other settings. The state includes social factors that influence health – such as poverty, substance abuse, domestic violence, and safety - - not just the traditional medical model, in trying to change the health status of its citizens. This means involving those from other state agencies in the process, and taking a hard look at health disparities among racial, ethnic, and socioeconomic groups.

“OUR GOVERNOR HAS DECIDED THAT IF WE ARE GOING TO GET A HANDLE ON CHRONIC DISEASE, WE’VE GOT TO START WITH OUR OWN EMPLOYEES. OUR AGENCY, FOR EXAMPLE, WORKED WITH OUR FARMERS TO BRING ‘FARMERS’ MARKETS’ TO OUR WORK COMPLEX, SO EMPLOYEES CAN GO OUTSIDE AND BUY FRESH FRUITS AND VEGETABLES. WE ALSO HAVE ENCOURAGED SUPPORT GROUPS FOR WEIGHT LOSS. WE ENCOURAGE PEOPLE TO TAKE THEIR BREAKS BY WALKING. WHEN WE HOST MEETINGS, WE BRING IN FRUIT, YOGURT, AND BOILED EGGS, RATHER THAN SUGAR-LADEN PASTRIES OR BIG COOKIES. WE’RE WALKING THE TALK.”

-- Maxine Hayes, MD.

### Urban Practice Collaborative on Preconception Health

“THE CONTEXT IS DIFFERENT FOR WOMEN IN CITIES THAN IN RURAL AREAS. THERE IS GREATER DIVERSITY AND A DISPROPORTIONATE NUMBER OF WOMEN OF COLOR, IMMIGRANT WOMEN, INCARCERATED WOMEN OR WOMEN OTHERWISE RELATED TO THE JUSTICE SYSTEM, POOR WOMEN, SINGLE HEADS-OF-HOUSEHOLD, LIVING IN CROWDED HOUSEHOLDS. WHEN IT COMES TO CHILD AND MATERNAL HEALTH, URBAN AREAS ARE HIT ESPECIALLY HARD.”

-- Magda Peck, PhD.

CityMatCH<sup>49</sup> is a national membership organization of city and county health departments’ maternal and child health programs, and leaders representing urban communities in the U.S. The organization is focused on dealing with the unique health stressors that women and children in urban areas face. The organization’s goal is to improve the health and well-being of urban women, children, and families by strengthening the public health organizations and leaders in their communities. The network represents local public health agencies that serve cities with a population of 100,000 or greater, or cities with the largest populations located in states not otherwise represented.<sup>50</sup>

In 1997, CityMatCH adapted a methodology first used by the World Health Organization (WHO) to study fetal-infant mortality. The approach, known as Perinatal Periods of Risk, or PPOR, examines existing data to determine which babies are dying – as well as when and why.<sup>51</sup> In partnership with CDC

and the March of Dimes, CityMatCH, has used this tool in dozens of cities and counties. The research has consistently revealed that the highest number of deaths occur among babies born at very low birthweight (less than 1,500 grams or 3.3 pounds).<sup>52</sup>

In October 2006, in response to the CDC’s guidelines and with the support of CDC’s Preconception Health and Health Care initiative, CityMatCH, created the **Urban Practice Collaborative on Preconception Health**, a pilot program in 3 cities: Hartford, Los Angeles, and Nashville. Each city established 5-member teams to determine what preconception care messages would work best in each individual city. In Nashville, for example, the team targeted young women in middle and high schools with messages about sickle cell anemia, a genetic disease common to African Americans and a topic of special interest to that population. This method delivers public health information through a surrogate approach.

## PART V: RECOMMENDATIONS -- A ROADMAP FOR PRECONCEPTION CARE

There are important opportunities to leverage existing public health, health care, and health care financing programs to improve access to preconception health and health care.<sup>53, 54</sup> The federal government and state governments can act to use current Medicaid options, increase the supply of publicly subsidized health clinics, and encourage the delivery of preconception screening and interventions in the context of public health programs.

Providing universal access to health care would be a major step toward improving preconception health and health care. The fact that about half of poor women of childbearing age do not have health coverage – public or private – is a fundamental barrier to improving their health.

Short of universal health coverage, certain policy modifications and investments could advance preconception health and health care. Specifically, Trust for America's Health recommends the following policy changes:

### I. FULLY IMPLEMENT AND ENHANCE MEDICAID POLICIES

Expanding access to health care and coverage to low-income women needs to be a national priority and the Medicaid program is an important vehicle for getting there. A first and immediate priority for state and federal policymakers should be to make sure that existing options under Medicaid are fully implemented in every state.

Second, policymakers should increase health coverage for low-income women of childbearing age through Medicaid policy changes and waivers. Medicaid finances approximately 40 percent of all births, meaning that investments in improved birth outcomes could yield large savings. While health coverage alone may not change health behaviors and health care utilization, having access – financial and geographic – to a provider is a threshold requirement for improved health care utilization and delivery of preconception care.<sup>55</sup>

- States should expand Medicaid coverage for women. Only half of states extend family planning coverage to low-income women, and many states have set adult eligibility for Medicaid at levels well below the federal poverty level. These are options available under current law.
- Congress and the President should act to give states the option to cover low-income adult women without needing a waiver. Since

those under age 18 and over age 65 who have below poverty incomes already are covered under federal mandates, such a new option would permit states to extend Medicaid coverage to women in their childbearing years.

- Alternatively, federal waivers should be permitted to provide coverage of the full range of Medicaid benefits for 24-months following a Medicaid-financed birth. This would give states the option to provide more than family planning and offer services to identify, treat, and manage chronic conditions and pregnancy-related risk factors.
- The federal government should provide seed funding to states to encourage the development of creative models that bring together the various funding streams that address women's health - along the lines of the Illinois efforts discussed earlier. Various federal programs, including Medicaid, the Title V Maternal and Child Health Block Grant and Title X Family Planning programs attempt to reach and serve similar populations. States can increase impact and efficiencies by assuring that these programs are coordinated and, where possible, integrate funding streams. Some states are attempting this now; however, to go farther it may be necessary for the federal government to provide waivers to permit more efficient use of these funds in the community.

## 2. EXPAND OTHER PROGRAMS THAT PROVIDE PRIMARY CARE AND OTHER SERVICES TO WOMEN OF CHILDBEARING AGE

The federal programs that provide primary care to women of childbearing age should be considered key to preconception care and funded accordingly. Given the rising number of uninsured, especially during an economic slowdown, the increased demand on these programs requires sufficient funding to assure that all women who need primary care can access it.

■ **Healthy Start Infant Mortality Reduction Program:** Funding for this program has declined from a high of \$102.5 million in FY 2005 to the current level of \$99.7 million. The President has requested the same amount for FY 2009. The program needs to be doubled in size to reach all of the urban and rural communities with infant mortality rates 150 percent above the national average.

■ **Community Health Centers:** Health centers are the primary safety net for the uninsured. The National Association of Community Health Centers supports an increase of \$248 million for the program.

■ **Title X Family Planning:** Current funding for family planning programs is \$299.9 million. The Administration has requested level funding for FY 2009. Family planning advocates have recommended funding up to \$400 million after a number of years of relatively flat funding.

■ **Title V Maternal and Child Health Block Grant:** Currently funded at \$666 million, the Association of Maternal and Child Health Programs (AMCHP) supports a funding level of \$850 million. Funding for this critical program has declined over the last 7 years, from a high of \$731.2 million in FY 2002.

## 3. MAKE RESEARCH ON PRECONCEPTION HEALTH AND HEALTH CARE A PRIORITY

In order to learn more and develop an additional evidence base for preconception health and health care, additional research is needed. To date, the federal investment in preconception care research has been limited. Investments now will have significant payoff – in terms of maternal and child health – for generations to come.

■ **CDC's National Center on Birth Defects and Developmental Disabilities and the National Center for Chronic Disease Prevention and Health Promotion** have created and advanced the Preconception Health and Health Care Initiative without additional funding; however, CDC cannot support research and develop new public health activities at the state and local level without new funding for preconception health and health care. An investment of

\$10 million would provide the resources needed for studies on effective delivery of preconception care, pilot projects in local health departments, provider tools and education, and social marketing efforts.

■ **The Eunice Kennedy Shriver National Institute of Child Health and Human Development** has convened researchers from a variety of fields to make recommendations on research priorities to improve preconception health. Clinical trials to test interventions, basic research into the biology of human development, studies on how environmental hazards affect the reproduction capacity of men and women and further investigation of genetic influences are among the important areas identified by these experts. Such priorities cannot be pursued without additional resources.

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## ENDNOTES

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