Preconception Health and Care, 2006

Figure 1. State Title V Priority Needs focused on Preconception Health and Health Care, U.S., 2005

Reported priority need focused on preconception health and health care for 2005 (n=23)

Source: Title V Information System <https://perfdata.hrsa.gov/mchb/mchreports/Search/core/measureindicate menu.asp>

“Preconception health promotion guidance can… provide prospective parents with an opportunity to prevent the preventable and to know they did all they desired to encourage a healthy pregnancy and infant.”
- Preconception Health Promotion: A Focus for Women’s Wellness. March of Dimes, 2003

“Optimizing a woman’s health before and between pregnancies is an ongoing process that requires access to the full participation of all segments of the health care system.”
–Committee Opinion, Number 31. American College of Obstetricians and Gynecologists, September 2005
WHAT IS PRECONCEPTION CARE?

Preconception care is a set of interventions that identify and modify biomedical, behavioral, and social risks to a woman’s health and future pregnancies. It includes both prevention and management, emphasizing health issues that require action before conception or very early in pregnancy for maximal impact. The target population for preconception care is women of reproductive age, although men are also targeted by several components of preconception care. The overarching goal of preconception care, as described in reports and recommendations of the American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), and the American College of Obstetricians and Gynecologists (ACOG) is to provide: 1) screening for risks, 2) health promotion and education, and 3) interventions to address identified risks.

WHY IS PRECONCEPTION CARE A PUBLIC HEALTH CONCERN?

Adverse birth outcomes are a persistent problem in the United States. Maternal and child health outcomes, such as maternal and infant mortality, preterm births, and low birthweight babies, are often used as an indicator of the overall status of health in a population.

Prenatal care became a mainstream intervention in the 1980s and has since succeeded in reaching most women in the US. Despite this and significant breakthroughs in medical science, improvements in maternal and infant health have slowed significantly or worsened in recent years.

Adverse pregnancy outcomes remain a prevalent health problem: 12% of babies are born premature, 8% are born with low birth weight, and 3% have major birth defects. Of women giving birth, 31% suffer pregnancy complications. Risk factors for adverse pregnancy outcomes remain prevalent among women of reproductive age. For example, 11% of women smoke during pregnancy, and 10% consume alcohol. Of women who could get pregnant, 69% do not take folic acid supplements, 31% are obese, and about 3% take prescription or over the counter drugs that are known teratogens. In addition, about 4% of women have preexisting medical conditions, such as diabetes, that can negatively affect pregnancy if unmanaged. All of these factors pose risk to pregnancies, but could be addressed with proper health interventions.

This situation is a major public health concern, suggesting that an improved national approach to ensuring healthy birth outcomes is needed. Prenatal care, which usually begins at week 11 or 12 of a pregnancy, comes too late to prevent a number of serious maternal and child health problems in the U.S. The fetus is most susceptible to developing certain problems in the first 4-10 weeks after conception, before prenatal care is normally initiated. For example, consumption of alcohol, tobacco, or certain prescription drugs during these first few weeks of pregnancy sharply increases the risk for a birth defect.

Because many women are not aware that they are pregnant until after this critical period of time, they are unable to reduce the risks to their own and to their baby’s health unless intervention begins before conception. Several effective preconception interventions, such as smoking cessation, obesity control, folic acid supplementation, and some medication adjustments take months to implement and therefore must begin long before conception. Each child born with an intellectual disability or a comparable condition leads to direct and indirect societal costs over their lifetime in excess of one million dollars. Adverse pregnancy outcomes avoided through preconception care represent both an alleviation of human suffering and a reduced burden on the health system.

Preconception care is critical to improving the health of the nation. The Healthy People 2000 goals set a target aiming for 60% of primary care physicians to provide age-appropriate preconception care, yet only about one in four providers currently provides preconception care to the majority of the women they serve. Preconception care could succeed in improving maternal and child health where the current paradigm is failing, but most providers don’t provide it, most insurers don’t pay for it, and most consumers don’t ask for it.
Currently, a number of preconception interventions show clear evidence-based effectiveness in improving pregnancy outcomes:

### Evidence-Based Preconception Interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Proven Health Effect</th>
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<tbody>
<tr>
<td>Folic Acid Supplementation</td>
<td>Reduces occurrence of neural tube defects by two thirds</td>
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<tr>
<td>Rubella Vaccination</td>
<td>Provides protection against congenital rubella syndrome</td>
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<tr>
<td>Diabetes Management</td>
<td>Substantially reduces the threefold increase in prevalence of birth defects among infants diabetic women</td>
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<tr>
<td>Hypothyroidism Management</td>
<td>Adjusting Levothyroxine dosage early in pregnancy protects proper neurological development</td>
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<tr>
<td>Detection and Treatment of HIV/AIDS, Hepatitis, and Other Infections</td>
<td>Allows timely treatment and provides women (or couples) with additional information that can influence the timing of pregnancy onset</td>
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<tr>
<td>Maternal PKU Management</td>
<td>Prevents babies from being born with PKU-related mental retardation</td>
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<tr>
<td>Oral Anticoagulant Use Management</td>
<td>Switching women off teratogenic anticoagulants (ie. Warfarin) before pregnancy avoids harmful exposure</td>
</tr>
<tr>
<td>Antiepileptic Drugs (AEDs) Use Management</td>
<td>Changing to a less teratogenic treatment regimen reduces harmful exposure</td>
</tr>
<tr>
<td>Accutane Use Management</td>
<td>Preventing pregnancy for women who use Accutane, or ceasing Accutane use before conception, eliminates harmful exposure</td>
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<tr>
<td>Smoking Cessation Counseling</td>
<td>Completing smoking cessation before pregnancy can prevent smoking-associated preterm birth, low birthweight, and other adverse perinatal outcomes</td>
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<tr>
<td>Eliminating Alcohol Use</td>
<td>Controlling alcohol binge drinking and/or frequent drinking before pregnancy begins prevents fetal alcohol syndrome and other alcohol-related birth defects</td>
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<tr>
<td>Obesity Control</td>
<td>Reaching a healthy weight before pregnancy reduces the risks of neural tube defects, preterm delivery, diabetes, cesarean section, and hypertensive and thromboembolic disease that are associated with obesity.</td>
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Health conditions amenable to preconception care also include hypertension, thrombo-embolic disease, repetitive pregnancy loss, eating disorders, substance abuse, domestic violence, and poor nutrition. Addressing these problems before pregnancy not only yields known benefits to women’s health but can positively impact later pregnancy outcomes. Preconception health promotion should be directed toward well women as well as women with known health risks. Specific issues that should be addressed with all women before a pregnancy are nutrition and weight, use of tobacco, alcohol, medications, and illicit drugs, occupational and environmental hazards, domestic violence, infections and immunization, screening for medical disease, family planning, and genetic risks. The challenge for preconception health is to reach all women with these interventions in time for them to be effective in reducing risks to women and their pregnancies.

Through a two-year collaborative effort, the CDC has successfully aligned the efforts of a number of its external partners and internal programs. An internal workgroup on preconception care, with participants representing 22 programs from across CDC, was convened in 2003-2004. CDC also convened a Select Panel on Preconception Care in 2005, which included experts from a variety of national organizations concerned about the health of women, infants, and families. Together, the CDC internal workgroup and the Select Panel developed the following recommendations for improving preconception health and care.

- **Recommendation 1. Individual responsibility across the life span.** Encourage each woman and every couple to have a reproductive life plan.

- **Recommendation 2. Consumer awareness.** Increase public awareness of the importance of preconception health behaviors and increase individuals’ use of preconception care services using information and tools appropriate across varying age, literacy, health literacy, and cultural/linguistic contexts.
Recommendation 3. Preventive visits. As a part of primary care visits, provide risk assessment and counseling to all women of childbearing age to reduce risks related to the outcomes of pregnancy.

Recommendation 4. Interventions for identified risks. Increase the proportion of women who receive interventions as follow up to preconception risk screening, focusing on high priority interventions.

Recommendation 5. Interconception care. Use the interconception period to provide intensive interventions to women who have had a prior pregnancy ending in adverse outcome (e.g., infant death, low birthweight or preterm birth).

Recommendation 6. Pre-pregnancy check ups. Offer, as a component of maternity care, one pre-pregnancy visit for couples planning pregnancy.

Recommendation 7. Health coverage for low-income women. Increase coverage among low-income women to improve access to preventive women’s health, preconception, and interconception care.

Recommendation 8. Public health programs and strategies. Infuse and integrate components of preconception health into existing local public health and related programs, including emphasis on those with prior adverse outcomes.


These recommendations are designed to achieve four goals that guarantee optimal reproductive health outcomes for all women and couples:

- Goal 1. To improve the knowledge, attitudes, and behaviors of men and women related to preconception health.
- Goal 2. To assure that all U.S. women of childbearing age receive preconception care services – screening, health promotion, and interventions -- that will enable them to enter pregnancy in optimal health.
- Goal 3. To reduce risks indicated by a prior adverse pregnancy outcome through interventions in the interconception (inter-pregnancy) period that can prevent or minimize health problems for a mother and her future children.
- Goal 4. To reduce the disparities in adverse pregnancies outcomes.

**FUTURE DIRECTIONS**

With the support of external partners and the Select Panel, the CDC will continue to promote preconception health and care with providers, policy makers, and the public in accordance with action steps that have been agreed upon for each of the recommendations. Publishing and disseminating the recommendations will begin in 2006. Next steps will include efforts to increase awareness among public and private providers, to identify opportunities to integrate preconception care programs and policies into state, local, and community health programs, to develop tools and guidelines for practice, and to evaluate existing programs for feasibility and demonstrated effectiveness.

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