



birth defects  
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## Blood Folate Concentrations and the Prevention of Neural Tube Defects

*There are more than 300,000 neural tube defects, serious birth defects of the brain (anencephaly) and spine (spina bifida), worldwide each year. Neural tube defects are a significant cause of death and lifelong disability, but many can be prevented. Research has shown that taking enough folic acid, a B vitamin, before and during early pregnancy reduces the risk of having a baby with a neural tube defect.*

### What is blood folate concentration and why is it important?

Blood folate concentration is the amount of folate found in the blood. Folate and folic acid are often used interchangeably. They're different forms of the same B vitamin. When a woman gets folic acid through foods or supplements, her blood folate concentration increases. We know that when our blood folate concentration is too low, our bodies do not work as well. Having enough folate in the blood can help improve a woman's health and can reduce her risk of having a baby affected by a neural tube defect.

### What blood folate concentration reduces the risk of having a baby with a neural tube defect?

We do not know the folate concentration a woman should have before and during early pregnancy to reduce her risk of having a baby affected by a neural tube defect. This amount is called an optimal blood folate concentration.

### What is CDC doing?

CDC is collaborating with the World Health Organization (WHO) to determine the range of blood folate concentrations in women of reproductive age to maximize the prevention of neural tube defects. In August 2012, CDC and WHO held a meeting in which experts from around the world helped identify priority questions and the approaches that could be used to establish this range.

National Center on Birth Defects and Developmental Disabilities  
Division of Birth Defects and Developmental Disabilities





Currently, CDC's Division of Birth Defects and Developmental Disabilities and WHO's Department of Nutrition for Health and Development are working with partners to gather up-to-date evidence to inform this effort. Findings from this collaboration will help develop recommendations on optimal blood folate concentrations.

### Why does this matter?

An established range of optimal blood folate concentrations will help program managers, health professionals, and policy makers identify strategies to increase folic acid intake among population groups with low blood folate concentrations. Such strategies could include folic acid fortification (the addition of folic acid to certain foods) and programs that promote the use of vitamin supplements containing folic acid.

Preventing neural tube defects and other birth defects can help countries and their partners achieve the United Nations Millennium Development Goals (MDGs), in particular, reduction of child mortality (MDG 4) and improvement in maternal health (MDG 5). Additionally, this collaboration will enhance CDC's ongoing efforts to strengthen and expand global neural tube defects prevention. These efforts can lead to the prevention of an estimated 150,000–210,000 neural tube defects worldwide each year.

To learn more, please visit [www.cdc.gov/folicacid](http://www.cdc.gov/folicacid)

