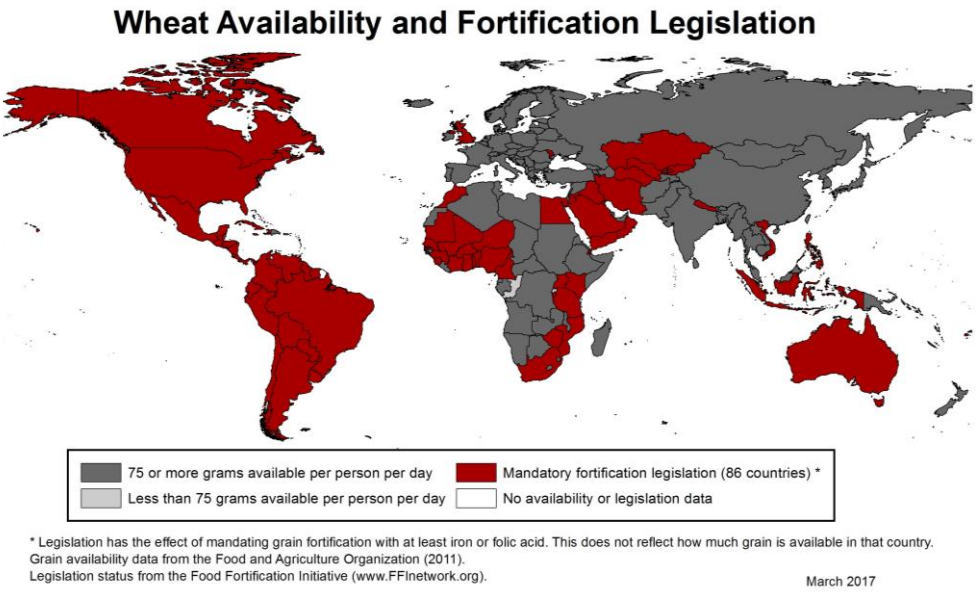
FLOUR FORTIFICATION BRIEF

Introduction

Globally **86 countries** have mandates to fortify wheat flour with vitamins and minerals. This cost-effective public health intervention is used mainly to prevent anaemia from nutritional deficiencies and severe birth defects of the brain and spine from insufficient folic acid.



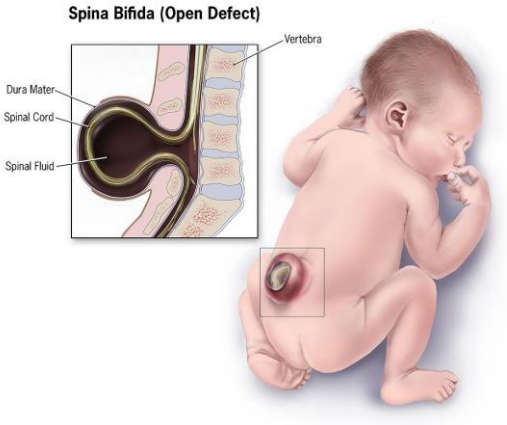
Costs

In most countries, the cost of fortification is shared by the milling industry and the government. Usually the milling industry buys vitamins and minerals and conducts internal quality control measures. The government may exempt the vitamins and minerals from import fees, and the government conducts external monitoring.

The on-going cost to fortify wheat flour with quality iron, zinc, folic acid and other B vitamins ranges from US $1.50 to US $3 per metric ton of flour.

If all costs are passed to the consumer, reports from several countries say **the cost is less than 50 cents per person per year**. The benefits of flour fortification far outweigh its associated costs. Fortifying with iron and folic acid, in particular, has been demonstrated as cost effective.

Health Watch: Spina Bifida



Spina bifida is a birth defect of the spine that can be mostly prevented with folic acid.

Even if excellent healthcare is available, most cases of spina bifida are permanently disabling and require a lifetime of medical care. Another largely preventable birth defect is anencephaly. In these cases, the infant's brain does not form correctly, and it is always fatal.

To reduce the risk of these birth defects, women need folic acid (vitamin B9) before conception and in the early weeks of pregnancy – even before they know they are pregnant. Fortifying flour with folic acid provides enough extra folic acid to prevent many of these birth defects.

Health Watch: Anaemia

Anaemia can be debilitating as it interferes with the tasks of daily living. Anaemia reduces productivity, hinders children's physical and mental development, and contributes to maternal mortality. Where flour is industrially milled, it can easily be fortified with iron and other nutrients whose deficiencies cause anemia.

Fortification

If food made with wheat flour is commonly consumed, **fortification is a practical way to increase the vitamin and mineral intake of the population.** If flour fortification is required by law, and the law is enforced, consumers benefit without having to change their behaviours. They do not need to shop or cook differently or change their eating habits. The foods they already enjoy are simply more nutritious.