Why Fortify?

Food Fortification Initiative
Enhancing Grains for Healthier Lives

Food Fortification Initiative (FFI)

Vision: Smarter, stronger, healthier people worldwide by improving vitamin and mineral nutrition.

Mission: Champion effective fortification of industrially milled flour and rice globally through multi-sector partnerships.

Progress: Measured against a five-year strategic plan and annual work plans.

Staff: 13 people worldwide.

Global Secretariat: At Emory University with support from the US Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, USA.

Oversight: 9-member Executive Management Team representing global leaders in public health and grain industries plus observers from the CDC and World Health Organization.

Global Nutrition Challenge

Two billion people worldwide suffer from vitamin and mineral deficiencies[1] with enormous consequences for both individuals and nations.

Deficiencies of iron, folate (vitamin B9), riboflavin, vitamin A, vitamin B12, and zinc are among the causes of anemia which leads to debilitating fatigue and lowered productivity. Also, pregnant women with anemia are twice as likely to die during or shortly after pregnancy compared to those without anemia.[2]

Insufficient folic acid (also vitamin B9) leads to common birth defects of the brain and spine. Even with excellent healthcare, these may be fatal or permanently disabling. Most of these birth defects can be prevented if women have 400 micrograms of folic acid daily before conception and in the early weeks of pregnancy.[3]

The effects of vitamin and mineral deficiencies are mostly invisible, and country leaders often devote time to more tangible health problems. For example, if present trends are maintained, the probability of reducing anemia by half by 2025 is negligible.[4]

Fortification: A Proven Solution

A proven solution is to add essential nutrients to common foods. Called fortification or enrichment, this takes advantage of existing distribution channels and does not require consumers to change behaviors. In public health, fortification is unique because it relies on a partnership between governments and the food industry.

Flour and rice can be fortified with an array of vitamins and minerals, making it one intervention with multiple health impacts.

A powdery blend of vitamins and minerals can be easily added to flour. Mühlenchemie photo.

National and Global Success

Fiji[5] and Cameroon[6] are examples of countries that have reported improvements in nutritional status after fortifying wheat flour.

Globally an estimated 50,270 birth defects of the brain and spine were prevented in 2017 - an average of 137 a day – in countries where flour was fortified with folic acid.[7]

Women in the Fiji where fortifying wheat flour resulted in improved nutritional status. Photo by Australia Department of Foreign Affairs and Trade on Flickr.

A child with spina bifida may need a lifetime of costly medical care. Photo by Tracy Lee Carroll on Flickr.

Costs and Savings

Iron deficiency in early childhood is limiting cognitive development in 40 – 60% of the developing world's children.[8] This affects academic performance and is associated with a 2.5% drop in wages in adulthood.[9]

The cost to fortify wheat flour in the U.S. is 7 cents per person per year.[10] Some of the world's top economists meeting as the Copenhagen Consensus consistently rank fortification as one of the most cost-effective interventions to address vitamin and mineral malnutrition. In Tanzania, for example, fortifying with iron, vitamin A, and folic acid is expected to yield US$ 8.22 in benefits for every dollar spent.[11]

Spina bifida is one of the birth defects that can be mostly prevented with folic acid. US researchers found an annual net savings of US$ 603 million when they compared the costs of fortifying with folic acid to healthcare costs averted from preventing spina bifida.[12]

Learn More

The Food Fortification Initiative (FFI) helps countries promote, plan, implement, and monitor sustainable grain fortification programs. To learn more, e-mail info@ffinetwork.org or visit www.FFInetwork.org.

Donations can be made via the CDC Foundation, a US based 501(c)(3) public charity which serves as FFI's grant administrator, or GiveWell, which ranks FFI as one of eight "standout charities."

[1]World Health Organization 2006 [2]Daru 2018 [3]Centers for Disease Control and Prevention 2017 [4]Stevens 2013 [5]National Food and Nutrition Centre 2010 [6]Engle-Stone 2017 [7]Kancherla 2018 [8]UNICEF 2007 [9]Horton 2003 [10]US Agency for International Development n.d. [11]World Bank 2012 [12]Grosse 2016