

Micronutrient deficiency can be easily and effectively eliminated...

- ◆ *Micronutrient malnutrition is recognized as an important public health problem affecting more than 2 billion people worldwide.*¹
- ◆ *As many as a third of the world population do not meet their physical and intellectual potential because of vitamin and mineral deficiencies.*²
- ◆ *Left untreated, micronutrient malnutrition has significant negative consequences on health and economic development.*¹
- ◆ *Solutions for prevention and treatment are available effective and inexpensive.*³
- ◆ *Vitamin and mineral supplements are a proven way to improve the health and lives of malnourished children.*³
- ◆ *MAMA Project, Inc is promoting universal home food fortification for women and children living in communities afflicted by widespread micronutrient malnutrition.*

Sources:

1. Hyder, S. M. Ziauddin; F. Haseen; M. Khan; T. Schaezel; (2007). A multiple-micronutrient-fortified beverage affects hemoglobin, iron, and vitamin A status and growth in adolescent girls in rural Bangladesh. *The Journal of Nutrition*. Vol. 137, No. 9, pp. 2147-2153.
2. Reinhardt , Erika (Sep/Nov2004). *UN Chronicle*. Vol. 41 Issue 3, p51.
3. The Micronutrient Initiative, 1996
4. Bender DA, Mayes PA. Chapter 44: "Micronutrients: Vitamins & Minerals" (Chapter). Murray RK, Granner DK, Rodwell VW: *Harper's Illustrated Biochemistry*, 27th Edition.
5. Walker CL (2007). Micronutrients and diarrheal disease. *Journal of Clinical Infectious Diseases*. Volume 45 pg S73.
6. Enwonwu, C. O., Falkler, W. A., & Phillips, R. S. (2006). Noma (cancrum oris). *The Lancet*, 368, 147 - 156



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Micronutrient Malnutrition: Affecting millions of children worldwide



Courtesy of Peter Clark
ARCA Associates

The Devastating Consequences of Micronutrient Malnutrition

"It is no longer a question of treating severe deficiency in individuals. It is a question of reaching out to whole populations to protect them against the devastating consequences of even moderate forms of vitamin and mineral deficiency"

- Carol Bellamy, UNICEF

Malnutrition and Diarrheal disease:

A Case in Point⁵

- ◆ Diarrhea is the leading cause of death among children <5 years of age. Micronutrient malnutrition is the underlying cause of 61% of childhood deaths due to diarrhea globally.
- ◆ Vitamin A and zinc supplementation is proven to reduce mortality rate and prevalence of diarrhea.



Courtesy of Peter Clark
ARCA Associates

NOMA:

A Case in Point⁶

- ◆ Noma is a debilitating, disfiguring disease. It is an oro-facial gangrene that starts as a small gingival ulceration then spreads rapidly, destroying facial tissue. Noma has a 70-90% case fatality rate.
- ◆ As public health improved in the 20th century, improved nutrition led to the disappearance of noma in most of the world. It was eradicated in the United States 100 years ago.
- ◆ Micronutrient malnutrition is a major risk factor of noma, and the current failure to supply micronutrients to populations afflicted by noma is no longer acceptable.



Courtesy of C.O. Enwonwu
Lancet 2006



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Lancet 2006

Micronutrients include minerals and water- and fat-soluble vitamins which are needed for proper body functions. The inclusion of these micronutrients in the diet is essential for health. Micronutrient malnutrition is a major cause of disease and death, especially in women and children in the developing world.

The importance of supplying micronutrients to children around the world at risk is evident. Hidden hunger, or micronutrient malnutrition, affects one third of the world's population. Supplying vitamins and minerals to suffering children worldwide is possible and very cost-efficient. Sadly, efforts to supply vitamin and mineral supplementation for these children have not improved in over a decade. It is of utmost importance that efforts to eradicate hidden hunger improve so children have a chance to reach their full mental and physical capabilities.¹



Why action must be taken NOW

- ◆ Establishing universal coverage of supplementation programs could save 459,000 child deaths/year.⁵
- ◆ The necessary solutions for micronutrient malnutrition are available, effective and inexpensive³
- ◆ In 80 developing countries, iron deficiency has impaired intellectual development in young children, thus lowering national IQs significantly.²
- ◆ Vitamin A deficiency compromises the immune system of 40% of children under five and is responsible for 1 million deaths each year.²
- ◆ Iodine deficiency during pregnancy, or maternal anemia, causes mental impairment in as many as 20 million babies per year.²
- ◆ UNICEF has called for the food industry to develop, market and distribute low-cost fortified food products and supplements.²