

LARGE-SCALE FOOD FORTIFICATION:

Unlocking Human Potential
Through Equitable Access
to Essential Vitamins
and Minerals

A new narrative for large-scale food
fortification with guidance for
communicators





1. Center the conversation in the power of vitamins and minerals

Vitamins and minerals have the power to unlock—or undo—human potential. No matter where we live and no matter what food is on our plate, we all depend on the same core set of nutrients to achieve healthy growth and brain development.

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Supporting Points

- Vitamins and minerals like iron, iodine, and vitamin A are essential to our health and survival at every stage of life, with the greatest need in the first 1,000 days—before and during pregnancy through a child’s second birthday.
- Yet two billion people suffer from a lack of essential vitamins and minerals—or “micronutrient deficiencies”—which can result in devastating health impacts such as blindness, physical and cognitive stunting, debilitating disease, and the preventable deaths of more than three million children worldwide each year.
- Ensuring that all people can consume diets rich in vitamins and minerals is foundational to building a healthy food system and to achieving our global goals.

Guidance

Establish the scale and magnitude of the potential health impacts early.

Establish large-scale food fortification as central to both:

- The 1,000 Day window of opportunity
- Equitable and nutritious food systems

2. Own and celebrate the evidence-based legacy and potential of large-scale food fortification to deliver better health—without over-promising.

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Supporting Points

- Large-scale food fortification is the process of adding safe levels of essential vitamins and minerals to commonly consumed foods like salt, rice, dairy products, flours, and oils within factories and mills to make them more nutritious.
- Vitamins and minerals may be considered “micro” nutrients but they have outsized impact on human health. Consuming more of even one micronutrient can prevent serious health consequences:
 - ✓ Fortifying salt with iodine helps to prevent irreversible brain damage in young children.
 - ✓ Fortifying flour with iron helps to protect against anemia and fortifying flour with folic acid helps to prevent severe birth defects like neural tube defects and spina bifida.
 - ✓ Fortifying staples with vitamin A supports eyesight, boosts immune systems, and can save hundreds of thousands of lives each year.
- Large-scale food fortification is not new; starting over a century ago in Europe and North America it has a long history of virtually *eliminating* diseases like rickets, goiter, pellagra, and beriberi worldwide over the past 70 years.
- Fortification efforts must be sustained to prevent these diseases from returning as public health crises. Investing in large-scale food fortification will help us to eliminate the next debilitating disease.

Guidance

Explain the process in simple terms.

Neither over-promise nor under-sell the potential impacts—instead, call attention to the “outsized” impact of “micro” nutrients.

Emphasize a history of virtually *eliminating* diseases.



3. Double down on LSFF's contribution to human capital development.

Large-scale food fortification is a driver of human capital: it is essential to cognitive development and increased productivity for individuals and generates economic returns for nations.

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Supporting Points

- Global salt iodization demonstrates the positive impact on brain development. After salt iodization was introduced in the United States (1924), IQ increased by approximately 15 points in areas with high levels of iodine deficiency and 3.5 points nationally.
- Over the past 20 years, the number of countries with acceptable iodine intake has nearly doubled—from 67 in 2003 to 105 in 2011 and 118 in 2020—serving to boost these countries' brain development and resulting in positive economic returns.
- Every \$1 invested in fortification generates \$27 in economic return from prevented disease, improved earnings, and enhanced work productivity. The improved iodine status alone from the achievement of salt iodization in 159 countries represents an economic benefit of nearly \$32.2 billion annually. These economic returns are phenomenal—even when compared with other critical public health interventions, such as vaccination, where the benefit cost ratio is approximately 16:1.
- Micronutrient deficiencies are estimated to cost a loss of between 2-5 percent of a country's annual gross domestic product (GDP).

Guidance

Establish clear links to brain development, IQ, productivity, and economic returns—for individuals and nations.

Use case examples.



4. Differentiate large-scale food fortification according to its distinct value proposition.

Large-scale food fortification is **one solution among many to deliver healthy diets**. It is one of the most powerful tools we have to tackle malnutrition due to its distinct combination of qualities including scalability, sustainability, and cost-effectiveness.

Supporting Points

It can scale rapidly.

Large-scale food fortification builds natural vitamins and minerals into staple foods like wheat and cooking oil that are already widely consumed by people of all socioeconomic backgrounds. The process of fortification most often occurs in existing food processing facilities that are managed by the private sector. This ensures that fortified staples become part of the food production process, and can quickly reach large segments of the population.

It is one of the most cost-effective health and development interventions.

Ranked by both the World Bank and the [Copenhagen Consensus](#) as one of the most cost-effective development investments, large-scale food fortification costs just pennies per person per year. The benefit-cost ratios are impressive at 30:1 for iodine in salt, 46:1 for folic acid in wheat or maize flour, and 8:1 for iron in wheat or maize flour. By preventing severe diseases before they happen, we are also preventing health care costs to treat conditions that require costly treatment.

It is sustainable.

After initial start-up costs, large-scale food fortification does not require the same ongoing level of investment as other interventions and its low incremental costs are often shared by the private sector and the consumer. It requires no change to consumer purchasing or eating patterns, which eliminates the need to invest in expensive social marketing and behavior change interventions.

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Guidance

We've been under-selling the proof points to the detriment of our success.

Own “scale”, “cost-effectiveness,” and “sustainability” as selling points—and keep coming back to them.



5. Position LSFF as a complementary solution and a driver of our even bigger ambitions.

Large-scale food fortification advances our ultimate goal of **healthy, safe, accessible, locally produced diets for everyone**. It improves overall intake of essential vitamins and minerals, **amplifying the success of nutrition and other health interventions**.

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Supporting Points

- As a population-based intervention, large-scale food fortification amplifies the success of other nutrition interventions by increasing consumption of vitamins and minerals—which are one component of a complete diet.
- It also increases the effectiveness of interventions such as vaccinations, which are more effective at preventing infectious diseases when individuals are better nourished and have a stronger immune system.
- Large-scale food fortification is a complement to—not a replacement for—diverse diets. It should be delivered as one component of a comprehensive package of nutrition interventions.
- For example, vitamin A deficiency is one of the leading causes of weakened immune systems and increases the risk of severe infections and preventable death in children. By delivering vitamin A through multiple interventions in concert with each other—including fortified staple foods, diverse diets, and supplementation—we will achieve maximum impact.

Guidance

Avoid framing as a stand-alone, silver bullet intervention.

Position as an immediate, doable action while we also work long-term to improve dietary diversity.



6. Claim equity, resilience, and preparedness as one of the unique aspects of LSFF that are often under-sold.

Large-scale food fortification is key to achieving a healthier, more equitable food system. When even the poorest households have access to a baseline of essential vitamins and minerals, well-being improves and **societies become more resilient in times of crisis.**

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Supporting Points

- Most wealthy nations have supported the health and wellness of their own populations using fortification for more than a hundred years. People in all countries—not just rich countries—should have access to quality, fortified foods when they go to market.
- Large-scale food fortification can be a great equalizer—reaching entire populations and at the same time benefiting those who need it most. It can increase equity between both rich and poor households, and also within households where nutrition is not always distributed equally.
- For example, women and children often eat last and least in their households, yet have the greatest nutritional needs. By fortifying foods commonly consumed by women and children, we can help close disparity gaps within households and communities—ensuring that everyone has the opportunity to maximize their own human capital.
- Poor households use a large amount of their income on food, even during periods of relative stability. During a crisis, families prioritize staple foods over more expensive, nutrient dense foods like fresh produce and meat. Fortification **ensures that people at all income levels have a baseline of vitamin and mineral security built into their diets**, even during periods of instability, which builds resilience and greater prosperity into our food systems.

Guidance

Highlight universal value. This isn't a solution for LMICs—it's a solution that most countries employ and that all people should benefit from.

Emphasize equity—when deployed strategically, LSFF is one way to reach vulnerable populations like women and children.

Talk about large-scale food fortification in terms of prevention. By investing in it, we are building resilience now and mitigating future challenges.



7. After building the case, assert a defensible conclusion: LSFF is massively under-utilized in our nutrition efforts.

Given its benefits and proven approach, **large-scale food fortification is a massively underutilized tool in our efforts to end preventable diseases and death.** Redoubling our work in three main areas will accelerate its impact on human health and development.

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Supporting Points

Data for program design, decision-making, and evaluation

Currently we lack data on the levels of vitamins and minerals in peoples' diets, company fortification practices for specific staple foods and products, and the coverage of adequately fortified food. We also have insufficient data to adequately establish and reinforce food fortification guidelines and quantify the full impact of large-scale food fortification on health and cognitive outcomes. By working to close these data gaps, we can monitor processes more efficiently, diagnose and troubleshoot issues more effectively, share best practices that can be utilized more widely, and have real-time information ready for governments and stakeholders to make informed decisions about how best to address micronutrient deficiencies.

Modern tools for food processing environments

While fortification processes can be successfully executed using present-day technology, current approaches place an undue burden on small and medium-sized enterprises to add the right levels of vitamins and minerals to staple foods and to report transparently on their programs. By increasing the availability and use of more automated approaches, we can increase the speed, accuracy, and transparency of the private sector's fortification practices.

Evidence-informed standards and guidelines

The first and most essential component of a country's fortification program is national guidance on the levels and range of vitamins and minerals that need to be delivered in each staple food. However, public regulatory agencies often lack the data, capacity, and resources to adequately establish and enforce food fortification standards. By developing more accessible and tailored tools with which governments can adopt and enforce fortification guidelines, we can ensure that both standards and regulatory practices achieve maximum impact.

Fortification innovation

Research and development can expand the range and levels of vitamins and minerals that can be delivered by different staple foods and condiments. In West Africa, for example, bouillon is a promising condiment that is widely used by families of all income backgrounds and has the potential to be fortified with up to six different micronutrients. Accelerated research is needed to bring these solutions to market, more quickly.

Our global community has committed to end hunger and malnutrition in all its forms by 2030. This goal requires that we unleash the power of large-scale food fortification at a global scale. We cannot let this low-cost solution with a proven history of preventing and virtually eliminating severe disease and death continue to be underutilized. It's on all of us to deliver the full potential of large-scale food fortification.





Thank you

Given its benefits and proven approach, **large-scale food fortification is a massively underutilized tool in our efforts to end preventable diseases and death.** Redoubling our work in four main areas will accelerate its impact on human health.

Additional Guidance

Prioritize developing more success/impact stories. Case examples like the salt iodization success story are underutilized in current messaging.

Garner excitement by highlighting new tools and players within the innovation space: large-scale food fortification is an old program in need of new innovations on multiple levels (partnership innovation, public technology innovation, structural innovation, etc.). Incorporate more stories highlighting innovative work in large-scale food fortification to spark interest among donors and policymakers.

Emphasize the longer-term economic benefits of large-scale food fortification in a bigger way. This will allow us to reach audiences outside of the nutrition community to galvanize broader support.

Use more emotional/aspirational language and positive tone when talking about the impacts of large-scale food fortification.

Lean into the global narrative on healthy diets, but don't pit large-scale food fortification against other interventions, especially dietary diversity or micronutrient supplementation.