

COVID-19 is making it harder for vulnerable people to access healthy food

Strengthening large scale food fortification should be part of the response



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Purpose

At every life stage, micronutrients are crucial to immune system function and resilience to infectious disease. This brief makes the case for large scale staple food fortification as a critically important tool to fight malnutrition in general, and even more so during the global COVID-19 pandemic. It provides evidence that the pandemic is adversely impacting large scale food fortification programs in low and middle-income countries (LMICs) and outlines recommended actions to meet these challenges and to sustain and strengthen fortification programs.

In a call for action endorsed by Food Fortification Initiative, Global Alliance for Improved Nutrition, Helen Keller International, Iodine Global Network, Nutrition International, the Scaling Up Nutrition Movement, UNICEF and the World Food Programme, this brief asserts that **tackling vitamin and mineral deficiencies, through fortification and other interventions, strengthens community health and resilience to disease and should be prioritized as part of global and national responses to COVID-19.**

COVID-19 has exacerbated a crisis of poor dietary quality and inadequate nutrition

COVID-19 is an unprecedented global health crisis, with particularly severe impacts on the lives of the most vulnerable. Not a single country is untouched by the pandemic, with millions of cases and nearly a million deaths across the globe. Lockdown and quarantine strategies to mitigate the spread of the virus and the concurrent economic impact could double hunger (acute food insecurity) worldwide¹, and drive up multiple forms of malnutrition, including child wasting, stunting, obesity, and the hidden hunger of micronutrient deficiency.²

The UN Secretary General recently warned that COVID-19 could disrupt the functioning of food systems, resulting “in consequences for health and nutrition of a severity and scale unseen for more than half a century.”³

The World Health Organization guidance on diet in the context of the current pandemic states that “good nutrition is crucial for health particularly in times when the immune system may need to fight back.”⁴

Limitations on access to food and basic supplies are possibly the most widely felt impact of the COVID-19 pandemic around the world. Specific impacts include:

- Reduced accessibility of fresh produce and animal-source foods. Lockdowns and travel restrictions have disrupted food supply chains, while shops and markets have closed, especially those selling fresh vegetables and meat, due to fear of catching the virus on the part of both traders and consumers.
- Decreased family income due to layoffs and lockdowns. The global economic downturn and reduced family income is linked to significant reductions in the consumption of fruits, vegetables, meat and dairy and increased consumption of nonperishable foods like flour, maize meal and rice.⁵ Because these staple foods are not naturally rich in essential vitamins and minerals (micronutrients) this shift in diets has the potential to deepen malnutrition among vulnerable populations.

1 <https://www.reuters.com/article/us-health-coronavirus-un-food/global-hunger-could-double-due-to-covid-19-blow-u-n-idUSKBN22313U>

2 Headey et al. “Impacts of COVID-19 on childhood malnutrition and nutrition-related mortality.” The Lancet. July 27, 2020. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)31647-0/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31647-0/fulltext).

3 “Policy Brief: The Impact of COVID-19 on Food Security and Nutrition” June 2020. https://www.un.org/sites/un2.un.org/files/sg_policy_brief_on_covid_impact_on_food_security.pdf

4 <https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/technicalguidance/food-and-nutrition-tips-during-self-quarantine>

5 Laborde, Martin, and Vos. “Poverty and food insecurity could grow dramatically as COVID-19 spreads.” April 16, 2020. <https://www.ifpri.org/blog/poverty-and-food-insecurity-could-grow-dramatically-covid-19-spreads>

The effects of malnutrition on human health, productivity, and socio-economic development are severe. Even before the pandemic, nearly one-third of the global population suffered from disease and premature death linked to nutritional deficiencies. There is no doubt that the COVID-19 pandemic is deepening malnutrition around the world, with the worst consequences borne by young children.⁶

Deficiencies in key vitamins and minerals such as vitamin A and iodine are a leading cause of blindness, brain damage, and mortality in infants and young children. Iron deficiency makes childbirth more dangerous for both mothers and babies and folic acid deficiency can cause devastating birth defects such as spina bifida. In addition to their effects on morbidity, mortality, and human development, micronutrient deficiencies are a significant contributor to childhood stunting and

wasting. Finally, nutrition and infectious disease have a bi-directional relationship: on the one hand, poor nutrition predisposes individuals to contracting disease and suffering more severe consequences. On the other hand, nutritious diets that contain adequate amounts of micronutrients such as vitamin A, vitamin D and zinc, strengthen the immune system, helping people to fight infectious diseases like COVID-19.

In the August 22 edition of *The Lancet*, the heads of UNICEF, FAO, WFP, and WHO⁷ made a joint statement calling for urgent action to protect children's right to nutrition at this time: "Malnutrition could exacerbate the effects of COVID-19 in mothers and children ... access to nutritious, safe and affordable diets needs to be safeguarded and promoted as a cornerstone of the response to COVID-19."⁸

Food fortification delivers improved nutrition and resilience

In the context of a deepening crisis of hunger and malnutrition brought by the COVID-19 pandemic, fortifying staple foods such as maize meal, rice, wheat flour, cooking oil, and salt with essential vitamins and minerals becomes even more important in helping to make a more nutritious diet affordable and available to all. Fortification is an inexpensive and efficient way to increase the vitamin and mineral content of foods that people consume every day. Done well, it has the potential to improve diets across the entire population, including among vulnerable groups. It is an essential tool in the toolbox alongside dietary diversification and targeted provision of vitamin and mineral supplements.

Fortification is one of the most cost-effective ways to improve the micronutrient intake and health of large numbers of people, according to the World Bank and the Copenhagen Consensus. Every \$1 invested generates \$27 on average in economic return from averted disease, improved earnings, and enhanced work productivity.⁹ The real-world impact of large-scale food fortification in LMICs is well established:



Salt iodization has been around for over 100 years, and is practiced in more than 160 countries, improving cognitive ability in infants and young children and reducing the odds of goitre by 74 percent;



Fortification with folic acid reduces the odds of debilitating birth defects such as spina bifida by 41 percent and fortification with iron helps to achieve a 34 percent reduction in anaemia, improving survival and cognitive functioning;



Vitamin A fortification reduces deficiency for three million children each year, improving immune function and significantly reducing the risk of blindness and death from infectious disease;¹⁰



Fortification with zinc strengthens immune systems, decreases childhood diarrhoea and pneumonia, and helps prevent childhood stunting. If every child received an adequate amount of zinc, child mortality would decrease by approximately 5% globally.¹¹

7 United Nations Children's Fund, Food and Agriculture Organisation, World Food Programme, World Health Organisation

8 Fore, Dongyu, Beasley, Ghebreyesus. "Child malnutrition and COVID-19: the time to act is now." *The Lancet*, vol 396. August 22, 2020.

9 <https://www.gatesfoundation.org/TheOptimist/Articles/food-fortification-to-fortify-the-future>

10 Keats et al, "Improved micronutrient status and health outcomes in low- and middle-income countries following large-scale fortification: evidence from a systematic review and meta-analysis." *American Journal of Clinical Nutrition*. 17 April 2019. <https://academic.oup.com/ajcn/article/109/6/1696/547506>

11 Food Fortification in a Globalized World, Mannar and Hurrell, eds. "Chapter 21 – Zinc Fortification." by Das et al. and Jones G., et al. How many child deaths can we prevent this year? *The Lancet*. 2003

Confronting challenges to global food fortification during COVID-19

The COVID-19 pandemic poses significant challenges to national fortification programs in low and middle-income countries (LMICs), many of them described below. Fortunately, much can be done to safeguard and even strengthen food fortification programmes during the global pandemic, if decision-makers recognise its importance in combatting malnutrition and strengthening resilience to infectious disease.

Fortification of staple food at scale relies on international supply chains, and recent disruptions to global trade are taking a toll. Fortification programs in Africa are almost entirely reliant on imported premix (the vitamins and minerals used in fortification) and fortifiable staples like grains and edible oil are typically imported prior to processing and fortification in-country. In short, the success of fortification programs in many LMICs depends on favourable international trade conditions, to which the COVID-19 pandemic poses a significant

challenge.

Effective food fortification programs also rely on strong quality control and surveillance systems at country-level, with essential roles to be played by large private sector companies, small and medium-sized enterprises (SMEs), government, and civil society. In many countries, restrictions on movement are preventing routine regulatory enforcement and monitoring of fortified foods, constraining civil society initiatives to support fortification programs and hold duty bearers accountable, and blocking government efforts to assess and track micronutrient deficiencies in the population. Many fortified food producers will continue to meet national fortification standards, whether enforcement mechanisms are active or not. Nevertheless, reduced enforcement lowers the bar for everyone, making it more difficult for responsible producers to compete with those that do not comply with national fortification standards.

COVID-19-related threats to national fortification programs in LMICs include:

1) Increased air freight, shipping, and local transport costs

Data from the GAIN Premix Facility (GPF) showed a 20 percent increase in sea freight costs for premix (the vitamins and minerals added to fortified foods during processing) between February and May 2020, while airfreight costs from Europe to West Africa increased by as much as 1,200 percent and continue to be prohibitively high today.¹² Sea freight costs stabilized at lower levels in August, but air freight expenses are expected to remain high for as long as global travel is restricted. The impact on premix costs will be significant – 25% of the premix orders handled by the GPF from March through August needed to be shipped by air, most of them comprising vitamin A for oil fortification.¹³

As a result of this volatility in transport costs, some premix suppliers have begun to sell their goods without including shipping. This leaves food producers to make their own importation arrangements, a task that is particularly difficult for shipments coming from countries like India, a major premix supplier where COVID-19 is skyrocketing and strict national lockdowns occur. To make matters worse, import taxes and duties are often based on a percentage of landed costs, meaning that increased freight costs simultaneously increase the tax burden on producers of fortified foods.

12 In April 2020 the cost of an air shipment of premix to Togo was less than 2€/kg. The cost by June 2020 was over 20€/kg (1,200% in two months' time). The air freight cost for the annual resupply of infant food premix to Cote d'Ivoire was 80% higher than the year prior. The cost of a regular shipment of vitamin A to Burkina Faso increased 385% between October 2019 and April 2020. The cost to ship fortification monitoring test kits to Ethiopia increased 53% in a two-week period (April – May 2020). All examples from the GAIN Premix Facility, June 2020.

13 Data from GAIN Premix Facility, September 2, 2020.

In addition to rising freight costs, food processors have faced difficulty accessing premix and raw agricultural materials due to more expensive and more limited local transportation options. These logistical breakdowns have led to high stock levels and cashflow problems and have made it difficult for producers of fortified staple foods, especially SMEs, to access raw materials and to get their products to consumers. In India, pandemic control measures have adversely affected the production capacity of fortified foods producers, especially SMEs, some of which are operating at roughly 50% of their pre-pandemic capacity.¹⁴

PKL is an SME producing fortified infant cereals in Cote d'Ivoire "Our production plant is located in Abidjan, which is completely isolated from the rest of the country because of COVID 19," says Achille Saré, the company's Product Development Director, "The suppliers of agricultural raw materials (corn, rice, soybeans) explained to us that they are having trouble finding trucks for the transportation of these agricultural raw materials. The cost of transport has increased."¹⁵ PKL has also seen the cost of air freight for vitamin and mineral premix increase by 80% since the pandemic hit.

2) Congested ports and export restrictions

Food fortification programs in most LMICs rely on international supply chains for fortifiable commodities, particularly wheat and edible oils. Persistent disruptions in the supply of these commodities could cause food price spikes, with concomitant impacts on political stability, hunger, and malnutrition in all its forms. Fortification programs must not become another casualty of international supply chain disruption and price volatility.

In response to the pandemic, 15 countries placed export restrictions on fortifiable foods such as wheat, rice, and edible oil.¹⁶ Russia and Ukraine, which collectively supply 41 percent of Africa's wheat imports, imposed export quotas on wheat from April to July 2020.

For the moment however, global production of widely consumed fortifiable foods remains high, global supply is good, and prices are generally stable. All but one of the countries that restricted exports of fortifiable foods at the start of the pandemic have since allowed these restrictions to expire. The government of Canada led an effort by the "Ottawa Group" of countries working with the World Trade Organization to protect supply chains and minimize trade disruptions during the pandemic.¹⁷ Despite these reassuring developments, this remains an area of potential risk which requires close monitoring as the pandemic continues to grow around the world, with attendant impacts on global food systems.

Export restrictions and congestion at ports have also added to the difficulties faced by importers of vitamin and mineral premix. Premix shipments have been held up at ports due to lockdowns, labor shortages, trade policies, and pandemic-related restrictions. Congestion at ports has led to shipment delays of three months or more.¹⁸

A shipment of potassium iodate (KIO₃), intended for salt iodization in Egypt was held in India for over three months due to the COVID-19 lockdown. Moreover, the port of destination in Egypt refused to accept it, citing a lack of adequate capacity at the port due to the pandemic.

In March 2020, India included B vitamins in its export ban on active pharmaceutical ingredients, effectively pausing Indian exports of most premix used in flour fortification. The ban was lifted in April, but this action underscores the vulnerability of a global market in which production of vitamin and mineral premix is concentrated in a handful of countries.

14 GAIN. 2020. Impact of COVID-19 on Food Systems: A Situation Report, Edition 3. May 13, 2020.

15 Email communication, July 2020.

16 <https://www.ifpri.org/project/covid-19-food-trade-policy-tracker>

17 https://www.international.gc.ca/world-monde/international_relations-relations_internationales/wtoomc/2019-06-covid-19.aspx?lang=eng

18 As reported by the GAIN Premix Facility, June 2020.§

3) Monitoring and enforcement challenges

In the rush to respond to the current crisis, government monitoring of food processors to ensure fortification quality has been deprioritized. In many places, regulatory monitors are unable to make their industry monitoring visits.¹⁹ The Ethiopia Food and Drug Authority has indicated that COVID-19 is challenging its ability to effectively carry out its enforcement activities to ensure compliance to regulatory standards for fortification.²⁰ Reduced government capacity has also made it difficult for fortified food producers to bring new products to market. According to Seun Sangoleye, “Mum-in-Chief” at Baby Grubz, a social enterprise in Lagos, Nigeria, producing fortified cereals for young children: “Our product reformulation process could not be completed due to the lockdown. The regulator could not complete the certification procedure and this will have an impact on the roll out of this enriched product.”

Government efforts to assess and track micronutrient deficiency have also suffered. For example, planned surveys to monitor iodine nutrition in school-age children in Madagascar, Mali, Mauritania, and Namibia, as well as in São Tomé and Príncipe have been postponed due to school closures.²¹

Government reactions to pandemic-related supply chain challenges have the potential to undermine food fortification programs. Perhaps most troubling is the suspension of mandatory fortification in Indonesia through the end of 2020 in response to lockdowns in India and Malaysia, key exporters of premix to Indonesia. If pandemic-related challenges to fortification programs are not addressed proactively, other countries could take similar steps, reversing years of hard-won progress.

Confronting COVID-19 with resilience and innovation

Despite the challenges brought by COVID-19, many countries and businesses are taking action to expand and protect access to fortified foods, recognizing their importance as high-quality, accessible, affordable, and nutritious foods in a time of pandemic.

- The government of Bangladesh took swift action to ensure continuous production of vitamin A fortified cooking oil by providing oil refineries with masks, infrared thermometers, and other protective equipment and by supporting the ability of refinery workers to adopt social distancing practices while maintaining production. Fortification of edible oil with vitamin A is mandatory in Bangladesh and most cooking oil consumed in the country is fortified. However there have been significant challenges in ensuring adequate fortification of unpackaged or bulk oil. Despite the additional pressures brought by the pandemic, the government is committed to achieving a phase out of bulk oil from the market by the end of 2020. In a public statement, Bangladesh Minister of Industries Mr. Nurul Majid Mahmud Humayun, presented these actions as an
- investment in both the health and safety of workers, and the nutritional needs of the nation, calling for businesses to ensure continued fortification of edible oil in accordance with national mandates.²²
- In Mexico, iodized salt production was classified as an essential economic activity, due to its centrality in a public health initiative supporting adequate iodine consumption and its inclusion in the country’s basic food basket.²³
- The government of Egypt is restarting its national wheat flour fortification program, on hold since 2014, with the support and partnership of the nation’s milling and baking industries. In Egypt, the COVID-19 pandemic has reinforced the importance of health, nutrition, and the establishment of strong systems that produce and distribute nutritious food, including fortified wheat flour. Once the program is fully re-established, it will reach 90% of Egypt’s population with improved consumption of iron and folic acid.²⁴

19 A slowdown or a pause in regulatory monitoring of fortification by government officers was reported in Kenya, Malawi, and Mozambique by the Food Fortification Initiative, May, 2020. UNICEF reported significant pandemic-related challenges to regulatory enforcement and monitoring of fortified foods in Ethiopia (June, 2020).

20 <https://www.unicef.org/ethiopia/stories/covid-19-poses-challenges-monitoring-salt-iodization-ethiopia>

21 Reported by UNICEF, June, 2020.

22 Reported by GAIN Bangladesh, May 2020.

23 Reported by Sergio Moreno, head of the Mexican Salt Producer Association, June 2020.

24 Food Fortification Initiative, July 2020

Recommendations

Food fortification programs must be strengthened and protected during the COVID-19 pandemic to support healthy immune systems and to help shield the population from increased malnutrition due to COVID-related food system and economic challenges.

Globally, fortification provides essential nutrition to millions at risk of vitamin and mineral deficiency, strengthening their ability to fight off infectious diseases. In a time of pandemic, fortification serves as a vital nutrition safety net for millions of people worldwide. But this safety net is at risk due to the impact of the pandemic on supply chains and economies around the world.

By acting jointly and proactively, governments, donors, the private sector, and civil society can ensure that the production, distribution, and consumption of fortified foods continues to support health and resilience to infection during and beyond the COVID-19 pandemic.

The organizations that produced this brief have worked to consolidate a list of actions that stakeholders can take to mitigate the effects of COVID-19 on fortification and to support the expansion of national fortification programs at a time when diet quality and diversity are more crucial than ever.

Governments are encouraged to:

- Maintain existing policies requiring fortification of staple foods and adapt monitoring and surveillance protocols to enable this work to continue safely throughout the pandemic;
- Prioritize vitamin and mineral premix for clearance at ports and border crossings by including it on the list of essential health commodities, exempt premix from import duties and taxes, and prioritize the use of foreign exchange for premix imports;
- Consider fast-tracking new mandatory staple food fortification programs, especially those delivering the essential nutrients – vitamins A, D, and B12, iron, zinc, folic acid, and iodine;
- Consider strengthening existing quality assurance systems and intensifying quality surveillance for fortified staple foods at market level, specifically edible oils, flours, and salt;
- Consider featuring fortified foods and fortified food logos in the context of public health communications on COVID-19 (for example television, web, and social media communication);
- Together with development partners, engage producers of fortified staple foods in a dialogue about the importance of fortification in the context of COVID-19. Partner with producers in overcoming challenges and problems;
- Provide personal protective equipment to regulatory enforcement agencies and classify logistics suppliers for the food industry as essential service providers to avoid breakdown and disruption in supply chains;
- Facilitate efficient use of haulage capacity to ensure that fortified foods reach the market and transportation costs are kept low;
- Maintain a stock of premix at national level to ensure local availability and access by fortified foods producers in the face of currency depreciation and foreign exchange shortages;
- Ensure that fortified staple foods and condiments are used in social protection programs to mitigate against a rise in micronutrient deficiencies in vulnerable populations.

Development partners and donors should:

- Sustain and increase funding to ensure that the private sector, including small and medium enterprises, and governments have the support and resources they need to continue production of fortified foods, innovation in fortified food products, and enforcement of fortification standards;
- Invest in digital platforms and systems for monitoring fortification quality to enable sustained efforts and progress at country level;
- Advocate against export restrictions and quotas by key grain exporting countries;
- Monitor and share data on the impact of food fortification programs on nutrition outcomes;
- Sustain and increase funding to dialogues, seminars, and trainings at country-level to support public/private sector collaboration to maintain and expand staple food fortification;
- Support virtual multi-stakeholder platforms to sustain dialogue, learning and action on large-scale food fortification.

International fortification premix suppliers can:

- Consider responsible and reasonable pricing schemes that ensure sustainable delivery at affordable cost to high-need markets in emerging and developing countries;
- Partner with other stakeholders in providing technical advice and training on the cost-effective and quality application of fortification at the factory and laboratory level;
- Engage in dialogue with customers around their logistical needs, ensuring sufficient lead-time in supplies so that critical raw materials arrive in time and at a reasonable cost;
- Consider favourable International Commercial Terms and extended payment terms for local companies where needed, so as to share logistical costs and delayed or reduced income from sales;
- Support SMEs impacted by COVID-19, for example through reduced prices or free-of-charge supplies of relevant ingredients, reagents, and equipment for fortification and training to increase the efficiency of fortification and to support compliance with fortification regulations of local or regional markets.

Producers of fortified products should:

- Take the lead in fortification quality assurance, including monitoring, testing and sharing the resulting quality data to ensure products are fortified according to national standards;
- Establish or continue effective operating procedures, quality assurance systems, and equipment maintenance, with well-trained personnel for sustained production and distribution of fortified foods;
- Join advocacy efforts to eliminate taxes and tariffs on micronutrient premix and ensure a reliable and affordable local premix supply for all fortified food producers;
- Invest in marketing and advertising to inform consumers about the health benefits of adequately fortified foods.

Civil society should:

- Hold government and private sector duty bearers accountable to ensure continued access to high-quality fortified staple foods;
- Disseminate information about the benefits of fortified foods to government officials and the public;
- Support virtual, multi-stakeholder platforms for dialogue, learning, coordination, and action to strengthen large scale food fortification and expand access to adequately fortified foods.

Fortifying staple foods with essential micronutrients has long been an essential tool in the global endeavour to protect lives, improve health, and lift populations out of intergenerational cycles of poverty. With the onset of COVID-19, we risk losing decades of progress. But with the COVID crisis also comes an opportunity – not only to protect what has been achieved, but to broaden fortification’s reach even further, to improve dietary quality and strengthen our collective ability to fight and recover from a global pandemic.