

# A conversation with Fortify Health, April 17, 2018

## Participants

- Brendan Eappen – Co-Founder, Fortify Health
- Nikita Patel – Co-Founder, Fortify Health
- James Snowden – Research Consultant, GiveWell

**Note:** These notes were compiled by GiveWell and give an overview of the major points made by Mr. Brendan Eappen and Ms. Nikita Patel.

## Summary

GiveWell spoke with Mr. Eappen and Ms. Patel of Fortify Health as part of its investigation into a potential GiveWell Incubation Grant to Fortify Health. Conversation topics included methods of analyzing the cost-effectiveness of iron fortification, the current state of fortification efforts in India, and Fortify Health's planned activities.

## Analyzing the cost-effectiveness of iron fortification

### Estimating fortification cost-effectiveness using supplementation data

The Cochrane Collaboration has published a meta-analysis on iron supplementation, but has not yet published its meta-analysis on iron fortification. Compared to supplementation, fortification involves giving lower doses over longer time scales, so analysis of the cost-effectiveness of fortification relies on assumptions about how to adjust supplementation results to account for this difference.

GiveWell and Fortify Health have independently come up with similar figures for these assumptions, and their best guess is that fortification is equally cost-effective to supplementation, or possibly more cost-effective.

### Cure rates vs continuous measurements

#### *Cure rates*

Currently, indicators such as hemoglobin concentration or serum ferritin are used on a threshold basis, such that a patient is considered to have anemia if the indicator surpasses some designated value. Researchers then track whether or not patients are 'cured' – i.e. if they move from the diagnostic category of 'anemia' to 'no anemia' – and find the effect sizes of different interventions based on the cure rate.

#### *Continuous measurements*

Changes in health indicators can also be measured continuously. For example, if a patient starts with 110 grams of hemoglobin per liter of blood, then later has 130, that would be counted as an improvement of 20. Researchers could find effect sizes by modeling these changes continuously and associating some number of disability-adjusted life-years (DALYs) with each unit of change.

## **Other actors working on fortification in India**

Most work on micronutrient fortification in India, especially in public schemes, is instigated by NGOs and relies on their resources. The government does not directly implement micronutrient fortification at scale, although there are indications that it may become more involved in the future.

### **Non-governmental organizations (NGOs)**

The major organizations working on micronutrient fortification are the Global Alliance for Improved Nutrition (GAIN), the Food Fortification Initiative (FFI), PATH, the World Food Programme (WFP), and Nutrition International. Fortify Health has conversation notes on its website with more details on these actors and their activities (<http://www.fortifyhealth.global/conversation-notes.html>).

#### *Global Alliance for Improved Nutrition (GAIN)*

GAIN is currently focusing on vitamin A and vitamin D fortification in oil and milk, following funding opportunities from the Bill and Melinda Gates Foundation.

#### Work on wheat flour fortification

GAIN is very knowledgeable about wheat flour fortification, and Fortify Health expects to seek advice from GAIN in this area. However, GAIN currently has only a limited budget allocated towards wheat flour fortification, having shifted away from working on wheat flour and iron fortification in order to pursue work on vitamin A and vitamin D.

#### *Food Fortification Initiative (FFI)*

#### Comparative advantage

While other organizations primarily do direct work, FFI is focused on large-scale reform. Its deep knowledge of the market, the industry, and the fortification landscape helps it be particularly effective at this work.

#### Work in India

FFI currently has a limited presence in India, with two to three full-time employees on its India staff. It is not currently doing any direct fortification work.

Previously, FFI played a technical advisory role in the development of fortification standards adopted by the Ministry of Health's Food Fortification Resource Centre (FFRC). It has also collaborated on advocacy projects to catalyze wheat flour fortification in Haryana through the Public Distribution System (PDS).

#### *PATH*

PATH works on iron, folic acid, and vitamin B-12 fortification, and is currently focused on fortifying rice. It has not been involved with wheat flour fortification.

## Work on rice fortification

PATH's recent work has included developing a fortified rice kernel and distributing the fortified rice via a mid-day meal scheme in Karnataka, run by the Akshaya Pātra Foundation. The Karnataka project reaches ~450,000 beneficiaries and is due to end in May 2018. PATH also has a rice fortification project in Odisha which is reaching ~100,000 beneficiaries and is due to end in December 2018.

The Government of Karnataka and the Akshaya Pātra Foundation are interested in continuing the work that PATH is doing on rice fortification. Fortify Health will be interested to see whether this succeeds, because historically NGOs working on fortification have not been successful in passing their projects on to other actors.

## *Other organizations*

The World Food Programme (WFP) and Nutrition International also work on micronutrient fortification in India. More details about WFP's work can be found in the WFP conversation notes on Fortify Health's website (<http://www.fortifyhealth.global/world-food-programme.html>).

There are some organizations involved in food fortification in India that Fortify Health has not been successful in talking to, such as the Tata Trust. Making contact with these organizations would fill gaps in Fortify Health's understanding of the fortification landscape.

## **State actors**

Recently, a team of ten people in the Indian central government has begun working to organize states to take action on fortification policy (the Food Fortification Resource Center within the Food Safety Standards Authority of India). This is a new initiative and has not yet been fruitful in bringing about large-scale expansion of fortification, so for the time being state action on fortification is unlikely to happen without further intervention from NGOs.

In the long term, Fortify Health hopes for states to endorse and finance micronutrient fortification, or to establish mandates requiring the industry to pass fortification costs on to consumers.

## **Scope of iron fortification efforts in India**

### **Number of people working on iron fortification in India**

Mr. Eappen estimates that between all the NGOs, there are ~20 people working on iron fortification in India, either full time or as a significant part of their jobs. Team sizes for each NGO are included in Fortify Health's conversation notes, but these figures might exclude people who are specifically contracted for implementation.

### *Sizes of strategic teams*

The strategic teams of the major fortification NGOs are quite small. The number of people working on fortification strategy in India for each NGO are as follows:

- **PATH** – 3 strategic team members, all working on rice fortification
- **Nutrition International** – 2 India-specific and 2 Southeast Asia regional strategic team members
- **FFI** – 1 full-time employee in India, who does some work on fortification
- **GAIN** – 3 or 4 strategic team members

### **Proportion of people in India with iron deficiency anemia (IDA) who are currently reached by fortification efforts**

Approximately ~500 million people in India have IDA. Current fortification projects reach hundreds of thousands of people, and potential upcoming policy reforms might provide the opportunity to reach millions with iron fortification.

Ms. Patel is very uncertain, but would guess that the proportion of people with IDA that are currently reached by an iron fortification initiative is less than 1%.

### **Comparison with universal salt iodization (USI) in India**

USI currently has nearly 90% coverage in India, but it reached that level only after ~40 years of work by NGOs and the government. Actors involved in micronutrient fortification are optimistic that iron fortification will not take quite so long, but it is still important to realize that progress on universal fortification happens on quite long timescales.

#### *Industry consolidation*

The salt industry had to be consolidated in order to make USI possible, and since the flour industry is highly fragmented, a similar industrial reform would likely be necessary for iron fortification to achieve similarly high coverage. Due to the nature of the Indian political system, the impetus to take action on industrial reform would likely fall to individual states, such that successful reform efforts would have to be independently replicated in each state.

### **Sustainability of different approaches to fortification**

#### **Direct fortification**

Direct fortification is difficult to sustain without continuous investment of resources, and organizations that have done direct fortification work in mills have historically been unsuccessful in getting the government or industry to take on fortification costs.

For example, from 2011 to 2014 an NGO received funding from the Gates Foundation to catalyze iron fortification in an Indian state. This NGO provided the flour industry with equipment and established best practices for fortification and monitoring, and it hoped that the government or the industry would take the project forward when the grant ran out. The NGO attempted to ease this transition by weaning factories off of subsidies for premix, but this was largely unsuccessful, and as of 2018 most were no longer fortifying flour.

### *Fortify Health's take on direct fortification*

Fortify Health believes that direct fortification is an important interim strategy, because it is a cost-effective way to reduce anemia in particularly vulnerable populations while India awaits larger policy changes that can impact the issue at scale. Though Fortify Health knows that it should not expect direct fortification costs to be taken on by the government, the industry, or the consumer, this is not a deterrent since it believes that direct fortification is worthwhile even if Fortify Health continues paying for premix for the foreseeable future.

### **Policy reform**

Fortify Health believes that the work with the greatest potential for sustainability is seeking legislative reform to mandate fortification at the industry level. However, this strategy is high-risk, high-reward, and Fortify Health expects that its chances of being successful within three years are low.

### **Fortify Health's comparative advantage**

There are several reasons why it makes sense for Mr. Eappen and Ms. Patel to start a new organization, rather than working on fortification at an existing NGO.

### **Strategic decisions**

Major NGOs, whose goal is universal fortification in India, do not feel that funding direct fortification is the most effective use of their limited budgets. These organizations might instead want to pursue higher-risk strategies that could lead to policy change, or work on projects with sliding subsidies so that they can continuously reallocate funding to new projects.

Fortify Health, on the other hand, is interested in making a marginal impact, although it also plans to pursue promising opportunities to assist policymakers in moving to mandatory fortification.

### **Mission constraints**

NGOs can be significantly constrained by their specific remit or by the strategic decisions of their partners or funders.

### **Capacity limitations**

Fortify Health believes that the amount of work that large NGOs do can be limited by managerial capacity as much as funding constraints. Funding Fortify Health, on the other hand, would create a project that would not otherwise exist, and that uses a strategy no other organization is pursuing: pairing direct fortification with work to assist policymakers.

## **Fortify Health's planned work**

### **Identifying mills to work with**

#### *State-level prioritization*

Fortify Health plans to begin the process of choosing mills by prioritizing among states. The process of forming partnerships with mills will partly depend on what states Fortify Health chooses to work in – for example, it may be easier to engage with mills in Rajasthan because of pre-existing relationships built by GAIN.

#### *Becoming familiar with the flour production and fortification process*

Since the fortification process will differ slightly depending on what kinds of mills Fortify Health works in, Fortify Health will investigate the details of production of different kinds of flour, looking at atta vs maida flour and different flour extraction levels. Fortify Health will also work to better understand the wheat flour industry and the consolidation of wheat flour production.

#### *Advisory partnerships*

Fortify Health expects that an advisory partnership with FFI is the best way for it to do state-level prioritization, since FFI has already done extensive analysis of the wheat flour industry. Fortify Health would retain control over the ultimate decisions, but would be guided by FFI's expertise.

Fortify Health also has a set of advisers who can train Ms. Patel and Mr. Eappen in the process of selecting mills.

#### *Outreach*

After familiarizing itself with fortification, ensuring that its intervention is tractable, and securing support from other organizations, Fortify Health will begin reaching out to mills. It has not yet made contact with any potential partner mills, and does not have a shortlist of mills that it plans to reach out to.

### **Monitoring and evaluation**

In order to causally attribute any health outcomes to its iron fortification program, Fortify Health will need to carefully monitor its impact. To do this, it plans to compare some of its intervention districts to nearby control districts, and measure whether fortification is more likely to begin in the intervention districts than in the control districts. It will also monitor whether intervention districts are more likely than control districts to undergo policy-level changes.

*All GiveWell conversations are available at <http://www.givewell.org/conversations>*