

Conversations with Fortify Health, April 19 and 25, 2019

Participants

- Brendan Eappen – Co-Founder, Fortify Health
- Nikita Patel – Co-Founder, Fortify Health
- Dr. Urmi Bhattacharya – Country Director, Fortify Health
- Andrew Martin – Senior Research Analyst, GiveWell

Note: These notes were compiled by GiveWell and give an overview of the major points made by Fortify Health.

Summary

GiveWell spoke with Mr. Eappen, Ms. Patel, and Dr. Bhattacharya of Fortify Health to get an update on its work. Fortify Health received a GiveWell Incubation Grant in June 2018 to support its work on mass fortification of wheat flour with iron in India (<https://www.givewell.org/research/incubation-grants/fortify-health/june-2018-grant>). Conversation topics included Fortify Health's plans to scale up its partnerships, its rationale for diversifying its strategy, the customer base for its fortified products, and the types of evidence that Fortify Health can gather to evaluate its impact.

Plans to scale up partnerships

Fortify Health's application for a GiveWell Incubation Grant for its second year of operations includes budgets for three possible plans: a maintenance plan, a low-bound scale-up, and a high-bound scale-up.

In its first year, Fortify Health has developed strong connections with four mills as part of its strategy to sell fortified flour on the open market. Fortify Health estimates that it would partner with eight additional mills if granted funding for its low-bound scale-up, and that it would partner with 20 additional mills if granted funding for its high-bound scale-up. By this time next year, Fortify Health anticipates that memoranda of understanding (MOUs) would be signed with each of its new partners and that many would have a fortified product on the market.

Increased pace of partnerships

For the upcoming year, Fortify Health believes that it can partner with new millers at an increased pace. The team that develops partnerships with new millers was not up and running until November of Fortify Health's first year (2018) and had not yet developed the necessary relationships, processes, and documents.

One-year commitments to new partners

Fortify Health plans to make a one-year commitment to any mill that it partners with, which is reflected in its proposed budgets for its second-year grant application. Some funding included in the proposed budgets may be disbursed to partners beyond Fortify Health's second year of operations. Most of such funding is

incorporated in the budget for premix, which includes the cost of one year of premix for each new mill that Fortify Health plans to partner with over the course of the next year, regardless of what point in the year those partnerships begin. For example, if GiveWell awarded Fortify Health a second-year grant in the summer of 2019, and Fortify Health signed an MOU with a mill in January 2020, Fortify Health will have budgeted enough funding to provide premix to that mill through December 2020. Having funding up front for one-year commitments allows Fortify Health to continue partnering with new mills throughout the year.

Working with larger mills

If Fortify Health receives the funding for its low-bound or high-bound scale-ups, it plans to partner with substantially larger mills than it did during its first year. This would involve a shift in the type of fortification setups that Fortify Health is working with, as larger mills typically have more sophisticated operations and equipment.

Partnering with larger mills would enable Fortify Health to reach substantially more of India's poor population. Generally speaking, smaller mills are more likely to produce flour for niche markets and high-end consumers, while larger mills often serve a broader population. This is because larger mills typically produce the large sacks of flour that are sold as loose flour in marketplaces where people from lower socioeconomic backgrounds commonly purchase flour. This loose flour tends to be less expensive than the branded, packaged flour that is distributed elsewhere, and consumers are able to buy smaller quantities of this flour while saving on packaging costs. This flour may also be made from lower quality grain.

Supplying flour to ashram schools

Fortify Health is seeking a partnership with the Tribal Development Department in Maharashtra to work with mills that supply fortified flour to ashram schools. If Fortify Health secures this partnership, it will work with a mix of independent mills and mills selected to provide fortified flour to ashram schools. Fortify Health's total target number of new mill partnerships for its low-bound and high-bound scale-ups would remain the same.

Potential new partnerships in Nagpur

Fortify Health recently met with the divisional commissioner of the Nagpur region, which includes seven districts. Officials in Nagpur had a positive response to the prospect of fortifying flour in the region and are organizing a workshop for the upcoming Monday to bring millers together with Fortify Health to discuss fortification and potential partnerships.

Working in West Bengal

Fortify Health proposes implementing quantitative testing to assess whether flour distributed through West Bengal's Public Distribution System (PDS) is adequately fortified. If the quantitative testing indicates that there is room for improvement, Fortify Health would be well-positioned to support millers that are underperforming with regards to fortification quality. Fortify Health may also

produce data supporting the recommendation that the state's monitoring system include quantitative testing. In both of these respects, depending on the current quality of fortification in West Bengal, there may be a highly tractable opportunity for Fortify Health to have a large-scale impact.

Fortify Health also plans to pursue open market partnerships with millers tendered by the Government of West Bengal to provide fortified atta to the PDS, which it sees as highly tractable given that there are pre-existing fortification efforts in the region, millers already have fortification equipment, and millers seem to have had a positive experience with fortification.

Rationale for a diversified strategy

In the upcoming year, Fortify Health plans to focus on forming new partnerships with individual mills, developing government partnerships, and working with Maharashtra's Public Distribution System to supply fortified wheat flour, among other things. Fortify Health is considering the potential tradeoffs between the different aspects of its agenda. Fortify Health does not have the capacity to pursue all of these activities at once, so it will stagger them throughout the year.

Fortify Health believes that working with individual mills – and demonstrating that it has the expertise to support these mills – builds the organization's credibility with the government.

Fortify Health believes that the greatest gains may be made by leveraging and improving existing networks, such as the Public Distribution System in West Bengal. These networks could enable Fortify Health to reach tens of millions of people with improved quality fortified flour.

Customer base for fortified flour

Consumer demographics

Fortify Health would be interested in identifying the demographics of people who are being reached with fortified flour. Fortify Health expects it would be relatively easy to get a rough sense of these demographics by surveying a sub-sample of consumers of its partners' products using focus group discussions and/or qualitative surveys.

Targeting vulnerable populations with fortified flour would somewhat increase the health impact of fortification, in part due to higher levels of anemia among poorer populations. However, the stratification of anemia across wealth quintiles is smaller than one might expect. For example, the India Demographic and Health Survey (DHS) 2015-2016 indicates that 48.2% of women in the highest wealth quintile in India suffer from anemia. The comparable statistic for the lowest wealth quintile is 58.7%.

Mr. Eappen thinks it is possible that the higher rate of anemia among poorer individuals might be caused by factors unrelated to iron deficiency, such as parasitic infections that result from poor water, sanitation, hygiene, and infrastructure, and

that iron-deficiency anemia may therefore have an even smaller spread between wealth quintiles than that of anemia as a whole. In this case, the ability for iron fortification to reduce anemia would be similar across wealth quintiles.

Individual vs. commercial customers

The mills that Fortify Health is working with, or considering working with, produce flour (atta) for individuals' personal use, rather than high extraction flour (maida) which is primarily used by businesses in creating processed foods. It is possible that Fortify Health could partner in the upcoming year with mills supplying flour to businesses, but the kind of flour used in processed foods is not Fortify Health's primary focus.

Processed foods are typically made from a white flour called maida, which undergoes a high-extraction process that causes it to lose the bran. This is the kind of flour most commonly available in the U.S. By contrast, atta is a whole wheat, low-extraction flour that retains its bran. Atta is the type of flour used by Indian people at home to make breads, such as the staple roti. It is most beneficial to fortify atta because it is so regularly consumed.

Evaluation of impact

In the upcoming months, Fortify Health will be gathering evidence to determine whether its mills are able to fortify flour adequately and whether fortified flour is reaching consumers.

Quantitative testing

The first mill that Fortify Health partnered with has fortified one batch of atta. Fortify Health is now working to develop a monitoring and evaluation system with insights from the Food Fortification Initiative (FFI).

After a mill begins fortification, Fortify Health will be running quantitative tests and then sharing the results with the mill so that it can make appropriate adjustments. Fortify Health has run a few quantitative tests to measure iron levels in samples of the first batch from its first mill. Beyond these initial tests to allow for adjustment, Fortify Health will continue to run quantitative tests to measure iron levels to ensure that the flour is being adequately fortified. This testing is expected to be underway within about a month of a mill's fortification launch.

Fortify Health's partners produce multiple varieties of atta, with different textures or other variable characteristics. In its first mill, Fortify Health is starting with one variety of atta and plans to scale up fortification to the mill's other varieties as the mill gains confidence in fortification. Each variety of atta is also packaged differently and in multiple sizes, and the necessary calibration of the fortification equipment changes based on the packaging. For example, the first mill's "daily fresh atta" is sold in packages of 1 kg, 5 kg, and 30 kg. Fortify Health will test iron levels in each of these packages at first. Over time (possibly within a few months) Fortify Health may

collect composite samples if it is able to measure adequate iron levels in each individual package.

Fortify Health plans to conduct quantitative tests more frequently at first (possibly every two weeks), until it determines the optimal interval for testing. This interval will vary between mills depending on their size and existing equipment. The equipment in smaller mills typically does not have sensors, so the calibration for the rate at which premix is added has to be adjusted manually. Therefore, more frequent testing will be required in smaller mills, while larger mills may only require quantitative testing once a month or so.

Periodic quantitative testing complements a host of process measures taken with every batch of fortified flour. Fortification experts agree on the importance of getting the fortification process right, i.e., ensuring that equipment is operated properly and that rates of addition are calibrated accurately. Fortify Health believes that the best way to ensure quality is to take frequent measures to ensure that the process is working, then to verify these measures with periodic quantitative testing.

Sharing quantitative testing data with GiveWell

Fortify Health expects that within the next three months it will be able to provide GiveWell with quantitative testing data from its first mill and hopefully one to three additional mills.

This data should be considered in aggregate, as some variation in iron levels between samples is expected. The health benefits of fortification will depend on a rolling average of fortified flour that individuals consume over time. It is not problematic for an individual to consume flour with varying levels of iron from day to day.

Consumer acceptability

In addition to ensuring that mills are able to adequately fortify flour, it is important for Fortify Health to establish that its fortified flour is acceptable to consumers. Fortify Health could conduct interviews with consumers; however, the fact that millers are willing to put their reputations on the line by offering fortified products to their consumers serves as a proxy for consumer acceptability research.

Although Fortify Health is confident that the fortification process does not alter the organoleptic properties of the flour (such as taste, texture, and color), new mill partners may not be. Thus, Fortify Health has supported testing that allows millers to verify that the properties of their flour have not been affected. Fortify Health's first mill partner is currently completing its own such tests, and Fortify Health hopes to hear its conclusions within the next week. This mill has told Fortify Health that it will not be necessary to survey its consumers about the properties of the flour.

When signing an MOU, Fortify Health's millers agree to share the sales records of their fortified and unfortified products. Fortify Health expects to be able to provide

GiveWell the sales records for the fortified flour over the next several months. These records will allow Fortify Health to see whether fortified flour is being purchased and to compare its rate of purchase to that of unfortified products. Strong sales records may also nudge mills to fortify more of their products. The expectation for all of Fortify Health's partners is that they move toward fortifying all of the atta that they produce.

Health benefits

Direct measurements of health outcomes could also be useful for evaluating the impact of Fortify Health. An unresolved question for Fortify Health is how to model the health benefits of its fortification when those benefits are diffused over a large population. For example, two individuals might each buy and consume fortified flour about half of the time. Enough fortified flour was produced for one person to receive what Fortify Health believes is the most effective dose, but splitting it between two people may impact the health benefit each person receives.

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