

A conversation with Laura Rowe and David Dodson, September 27, 2016

Participants

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- David Dodson – Co-Founder, Project Healthy Children/Sanku
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Note: These notes were compiled by GiveWell and give an overview of the major points made by Ms. Rowe and Mr. Dodson.

Summary

GiveWell spoke with Ms. Laura Rowe and Mr. David Dodson of Project Healthy Children/Sanku (PHC/Sanku) to get an update on PHC/Sanku's activities. Conversation topics included progress PHC/Sanku has made since our last update, its plans for the future, collaborations with other micronutrient fortification organizations, and room for more funding.

Progress since our last update in July 2015

PHC/Sanku's programs typically progress through several sequential steps:

1. Designing the program
2. Agreeing on national fortification standards
3. Drafting and passing mandatory fortification laws
4. Ensuring that producers have the tools and training necessary to make the programs sustainable
5. Putting in place regulatory monitoring structures to ensure there is a means to track program compliance against national standards

Since GiveWell last spoke with PHC/Sanku staff in July 2015, many of the countries in which PHC/Sanku works (including Burundi and Rwanda) have drafted or passed legislation, food is being fortified, and PHC/Sanku is testing the fortified food to check whether it meets national standards. The next step in most of these countries will be to ensure that producers have the necessary technology, tools, and training to sustain the programs.

PHC/Sanku has spent two and a half years developing an Excel-based monitoring tool, but was not able to implement it in any of its programs until recently because it first had to negotiate standards and support passing of legislation. PHC/Sanku's program in Malawi was the first to begin using the tool to ensure that food is being fortified to adequate levels. Ensuring that food is fortified to standard is an important element of the program that requires affordable solutions to enable

countries to reliably implement the programs. PHC/Sanku is using its tools and training to enable countries to regularly test whether food is adequately fortified.

Monitoring work in Liberia

PHC/Sanku helped to train inspectors in Liberia to collect and test samples of fortified food. The government has now institutionalized this within its regular inspection process.

Countries where PHC/Sanku currently works

- Small-scale fortification programs
 - It has added a new small-scale fortification project in Mozambique.
 - It is fortifying food for a large refugee camp in Kenya at the request of the United Nations World Food Programme (WFP).
 - It has an existing program in Tanzania.
- Large-scale fortification work
 - Rwanda
 - Malawi
 - Burundi
 - Zimbabwe
 - Liberia

Plans for the future

PHC/Sanku has accomplished most of its goals related to getting mandatory fortification laws passed and putting programs in place. PHC/Sanku's next steps involve addressing three implementation gaps that other organizations seem unlikely to fill:

1. Creating the technology necessary to facilitate small-scale fortification.
2. Creating new innovative tools to measure and track fortification levels to ensure that food is being fortified properly.
3. Training regulatory monitoring inspectors and food producers on new innovative tools to facilitate the tracking of product compliance (i.e. whether food is fortified to standard).

Small-scale fortification technology

About 1-2 billion people do not have access to centrally processed foods and can only be reached via small-scale fortification. These people are particularly vulnerable because they tend to live in rural areas and are therefore far from clinics and less likely than others to receive interventions such as mosquito nets. PHC/Sanku started working to fill the gap in small-scale fortification when it started its program in Rwanda seven years ago and realized that $\frac{1}{3}$ of the people in the country would not have access to the food that had been fortified.

PHC/Sanku spent 5-6 years creating a small-scale fortification machine called a dosifier in collaboration with Stanford University. Dosifiers have now been in use in the field for years and have proven to work well. PHC/Sanku is interested in sharing the intellectual property for the dosifier with anyone who is interested in producing it, but so far no one has done so.

Creating an exportable model

In the African Great Lakes Region (beginning with its work in Tanzania), PHC/Sanku could plausibly reach 100 million people via small-scale fortification. In order to get closer to its goal of reaching 1-2 billion people, it plans to create an exportable model and ask other organizations to use it in different areas. In Mozambique, WFP has proposed a program that will reach a couple million people and has paid the manufacturing costs for dosifiers to be distributed there. PHC/Sanku will provide the dosifiers and send one staff member to help get the program started, after which it will hand the program over to WFP. *[Update: PHC/Sanku wrote on 12-14-16: "The primary part of our work is solidifying a sustainable business model in Tanzania that will roll out from there – hoping to reach 100 million people...Update: Oracle/NetSuite has agreed to donate free software and substantially discounted implementation to migrate us over to a scalable accounting/enterprise resource planning system that will pull data remotely from all dosifiers and allow us to scale responsibly. Scheduled completion May 2017."]*

Creating monitoring tools to measure fortification levels

Now that many countries have legislation specifying national fortification standards and PHC/Sanku has conducted some trainings on how to fortify food, a natural next step is to ensure that the countries have effective ways to ensure that food is being fortified to adequate levels and that they know what to do when this is not the case. Ensuring that food is being fortified to adequate levels is one of the largest global gaps in food fortification programming. Currently, of the data that does exist, only ~45% of food samples taken globally comply with national standards.

PHC/Sanku is addressing this problem in part by creating tools to measure fortification levels. Ms. Rowe is developing an Excel-based monitoring tool that will enable countries to efficiently and cost-effectively compile data results to find out whether food was fortified to standard and adjust the program accordingly. When this tool is complete, PHC/Sanku plans to develop an online version that will be easier to share with countries beyond the ones in which it currently works. The existing Excel model is functional but not scalable; it requires training, equipment, and knowledge of Excel. It would cost about \$70,000 to convert this into a tool that is easy to use, could be distributed broadly, and that PHC/Sanku could train someone to use in a day. *[Update: PHC/Sanku wrote on 12-14-16: "we are now working directly with Global Alliance for Improved Nutrition (GAIN), leading an effort*

to leapfrog the improved excel version and go straight to a cloud based solution. We have a software vendor in place and work has begun.”]

PHC/Sanku staff plan to attend a micronutrient conference to share what they have learned, discuss their tool, and offer to share the current version with anyone who is interested in using it.

Training producers on implementation

Fortification efforts in a country often wane after fortification laws are passed without ensuring that producers are properly trained to fortify food, and follow-up visits often show that food is not being fortified or not being fortified adequately. PHC/Sanku is working to train regulatory monitoring inspectors and producers to use the equipment they've been given and the monitoring tool to measure and track properly fortified food.

Collaborating with other micronutrient fortification organizations

PHC/Sanku's internal goal is to get fortified food to 100 million people who do not currently have access to it, and it is about $\frac{1}{3}$ of the way to this goal. Since PHC/Sanku does not have the capacity to fill the entire fortification gap (on the order of 1 billion people) on its own, it works with other micronutrient fortification organizations to distribute the workload, avoid redundant work, and identify gaps that the other organizations are unlikely to fill. Other organizations working on micronutrient fortification include the Global Alliance for Improved Nutrition (GAIN), the Food Fortification Initiative (FFI), and Helen Keller International (HKI).

PHC/Sanku's process for finding and filling gaps includes several considerations:

- It typically focuses on smaller countries that tend to be overlooked by larger organizations.
 - Tanzania is an exception to this rule. PHC/Sanku began working there because the government was enthusiastic and because the port of Dar es Salaam was operationally the best place to develop small-scale fortification strategies. PHC/Sanku does not do large-scale work in Tanzania.
- It fills gaps that the other organizations ask it to fill.
- It communicates a lot with the other organizations (and has a close working relationship with GAIN in particular) to ensure that they are not duplicating each other's work and that the strengths of each group are being leveraged to get fortified foods to as many people as possible. For example, the groups sometimes trade trainings to take advantage of each group's expertise.

PHC/Sanku aims to share knowledge and intellectual property with other organizations that are interested in addressing malnutrition. It plans to create exportable models for its work on technology, tools, and training so that it can share these with other countries and significantly increase the number of people reached.

Room for more funding

PHC/Sanku would likely be able to effectively use about an additional \$1 million in the next year. This would include:

- \$450,000 to fully refine an exportable business model for small-scale fortification technology in two districts in Tanzania (Morogoro and Dodoma) over the next 12 months. This level of funding would enable PHC/Sanku's small-scale fortification technology to reach up to 1 billion people if the exportable business model is fully successful.
- Roughly \$500,000 for tools and training. This would be primarily for staffing costs and would also include roughly \$125,000 for tools. PHC/Sanku aims to have a fully exportable model for tools and training in the next 12 months that it would plan to scale up.

Business model for small-scale fortification technology

PHC/Sanku staff understand how dosifiers work, how to get them into a country, and how they work on an electrical grid. The next step toward creating a fully exportable business model for small-scale fortification technology will be to ensure that millers use the dosifier to properly fortify food.

The main barrier to small-scale fortification that PHC/Sanku is aware of is that it costs a typical mill about \$1,000 per year to buy micronutrient premix to fortify flour, which is difficult for millers to afford while selling the flour at a competitive price. To combat this, PHC/Sanku (in conjunction with the Tanzania Food and Drugs Authority) plans to import flour bags from China and sell them to the millers at the same price they currently pay for bags (\$0.23) and use the profit margin to give the millers an appropriate amount of premix at no additional cost. This model is sustainable because the millers, rather than PHC/Sanku, are paying for the premix.

This business model was designed by General Mills. PHC/Sanku staff are fairly confident that the model will work, but they expect that spending another 12 months refining it will enable them to reach tens of millions of people rather than tens of thousands. If the model is successful in Tanzania, PHC/Sanku will expand it to other locations.

This model has a number of advantages:

- The bags that PHC/Sanku will be selling are higher quality than the ones that are locally available.
- In rural areas it can be difficult to access bags; sometimes the manufacturer is out of bags when someone shows up to buy them, and sometimes manufacturers do not show up to sell bags when they are expected to. These bags will be warehoused locally, so shortages are less likely.
- The millers pay the same amount per bag and get free premix.

- The small mills in the areas in which PHC/Sanku works have already been given dosifiers; the only demand on them will be to occasionally pour a box of premix into the dosifier.
- Giving out premix along with the bags enables PHC/Sanku to give premix in the correct proportions (200 bags of flour to 1 box of premix). The dosifier reports in when it is operating, and there is a closed system to ensure that people who buy these bags with free premix are using it to fortify food at the correct level.

Transitioning to locally produced bags

PHC/Sanku does not plan to import bags from China indefinitely; it plans to eventually transition to using bags from local Tanzanian manufacturers. The four large bag manufacturers in Tanzania are very big companies, and selling bags to millers in rural areas is not very profitable compared to their other business opportunities. PHC/Sanku plans to offer to buy bags from the manufacturers at wholesale price and take on the work of delivering them to small mills in Morogoro and Dodoma, which are several hours from Dar es Salaam, where the manufacturers are located.

Funding for dosifiers

Dosifiers are paid for by selling advertising space to organizations; there is room for an additional logo on the LED readout of each dosifier, and PHC/Sanku prints the logos of companies that fund the dosifiers. PHC/Sanku has found it easy to get funding for dosifiers this way. Dosifiers cost \$2,000 each when they are ordered in batches of 10, as PHC/Sanku has done to date; if they were to be produced on a large scale, the cost would be reduced to about \$500 per dosifier.

Tools and training

PHC/Sanku plans to get the online version of its Excel monitoring tool to be used in the countries in which it currently works to ensure that fortified foods can be effectively tracked for compliance against national standards. The tool will also enable quick decision making around program challenges so changes can be made in a timely manner, thereby increasing the chances of a positive nutritional impact. The long-term goal is to ensure 70-80% of the food is adequately fortified. In order to accomplish this, government staff need to be trained on using this tool in particular and on fortification programming in general. In addition to current country programs, PHC/Sanku will offer the new version of the tool to other countries that request it. *[Note the update on the Excel tool mentioned above in these notes.]*

The online tool is still in development, but a current version is in use in Malawi, Liberia, and Burundi. PHC/Sanku has some information on how often governments are taking samples and what the results are in these three countries. PHC/Sanku is

waiting to begin using the tool in Rwanda and Zimbabwe because fortification is not yet mandatory in these countries, though it could become mandatory as soon as a week from the time of this conversation. [Update: PHC/Sanku wrote on 12-14-16: "Fortification is now mandatory in Zimbabwe as a result of our efforts."]

The monitoring process using the online tool involves the following steps:

1. Government inspectors run quantitative and/or qualitative analytical tests on a sample collected from industry (e.g. Premier Milling). Inspectors can also conduct technical audits to infer compliance.
2. They enter the results into the monitoring tool.
3. A series of checks is conducted to make it difficult for government officials to forge results.
 - a. PHC/Sanku asks government inspectors to share the analytical tests, which are complex and difficult to forge.
 - b. In Burundi, tests need to go through a board of directors before the results are sent out.
 - c. PHC/Sanku also asks for internal test results and triangulates them. For example, in Burundi, it compares internal test results from Savor cooking oil with the results from the Bureau of Standards inspectors. If these results do not match, PHC/Sanku checks for testing issues or forging.

Inspectors can enter information from all domestic producers and importers as well as market data into the online tool.

PHC/Sanku tries to ensure that it is making realistic monitoring requests of the governments of the countries in which it works. In many of these countries, quarterly quantitative testing is prohibitively expensive. During the training process, PHC/Sanku works with a country to determine how often it can realistically afford to do quantitative testing, and believes that doing these tests once a year is adequate when combined with other checks. A simpler way to check whether food is likely being fortified to an adequate level is to do what PHC/Sanku calls a "premix reconciliation calculation" noting the monthly amount of flour produced, the actual addition rate for premix, the target addition rate for premix, and the monthly amount of premix used. It is important to do quantitative tests once a year to verify that these rough calculations are correct, but this is a good way to get general compliance data. This method is built into the Excel tool and will be incorporated into the online version as well.

Funders for PHC/Sanku's work

Funding for dosifiers

PHC/Sanku has raised over \$200,000 to produce dosifiers to be donated to mills for small-scale fortification, which is sufficient to fund all dosifiers that are needed.

Small donors

PHC/Sanku has historically gotten a large amount of its funding from small donors resulting from the recommendations of Giving What We Can and The Life You Can Save. PHC/Sanku has raised \$400,000-\$500,000 for the next year from these donors, and about 80% of its large-scale work has been funded by these donors.

Because Giving What We Can is no longer recommending charities to donors, PHC/Sanku is uncertain how much funding it will receive from small donors in future years. PHC/Sanku will be working hard on fundraising over the next 100 days to fill the gap that is likely to be left by these donors.

Large donors

PHC/Sanku has a few large donors, one of whom gives \$70,000 annually. It recently received a large donation from Mulago and hopes that this will lead to further donations from Mulago and other funders.

Funding gap

If PHC/Sanku had the same level of funding in the next 18 months that it has had for the past 6 months, it will likely be able to accomplish all of its goals for this period. However, PHC/Sanku cannot count on receiving this level of funding, particularly due to the uncertainty around donations from Giving What We Can donors.

Scale-up

PHC/Sanku would need significant additional funding to scale up its work on small-scale fortification technology and tools and training in 2018 and needs to start fundraising for this now so that it can have adequate time to plan the scale-up. PHC/Sanku has sufficient funding to continue its operations at their current level using the Excel version of the monitoring tool, but would consider this a failure.

Scaling up would involve:

1. In the next 12 months, creating a finished version of the online monitoring tool.
2. In the next 12 months, setting up tablets on which the monitoring tool can be used and implementing this system in countries where PHC/Sanku currently works and/or new countries of operation.
3. In the next 12-18 months, helping to set up the tool in other countries that request PHC/Sanku's help. This would involve Ms. Rowe going to the country and training government inspectors on how to use it. PHC/Sanku staff believe that there is a demand for this work; they have received requests from governments that they have not yet been able to fulfill because they would like to first focus on the countries in which PHC/Sanku already works.

PHC/Sanku has been discussing this need with groups such as GAIN, FFI, and HKI.

- a. An important leverage point will come when PHC/Sanku is able to export its technology to other countries. Officials from Uganda recently visited facilities in Tanzania that PHC/Sanku has supplied with dosifiers and asked PHC/Sanku to bring this technology to Uganda. PHC/Sanku was not able to fulfill this request because it does not yet have the capacity to train people to use the dosifiers and ensure that they are being used correctly.

When PHC/Sanku exports the tool to other countries, it will come with training in how to use the tool. Training involves not only showing officials how to input data in the tool, but also teaching government officials in each country how to do a premix reconciliation calculation, teaching inspectors how to sample fortified foods, and building the fortification inspection program into an existing food safety program.

Progress that PHC/Sanku expects to make in the next year

In 12 months, PHC/Sanku expects to:

- Have a fully exportable business model for small-scale fortification technology in Tanzania. PHC/Sanku is very determined to meet this deadline.
- Have developed an online version of its Excel monitoring tool and be using it in the countries where it currently works (this should be done within 8 months). *[Note the update on the Excel tool mentioned above in these notes.]*
- Have training modules and tools in place.
- Have test results demonstrating that all domestic mills and importers in most PHC/Sanku countries are fortifying, and the levels to which they are fortifying. PHC/Sanku already knows that food is being fortified as a result of its work in all but two of the countries it works in (Rwanda and Zimbabwe). This information will help PHC/Sanku to identify where there are significant gaps in fortification, and the monitoring tool can be used to determine whether the gaps are the result of an issue with sampling or production.
- PHC/Sanku does not expect that all producers will be fortifying to standard but does expect that coverage will be sufficient to materially impact health outcomes.

PHC/Sanku aims to create a sustainable process that it can hand over to the governments of the countries in which it works. This will involve making sure that governments have the tools and training to be able to run the programs independently. PHC/Sanku staff are under the impression that ministers of health are generally in favor of fortifying food.

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