

A conversation with Dr. Rolf Klemm, February 9, 2018

Participants

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Note: These notes were compiled by GiveWell and give an overview of the major points made by Dr. Rolf Klemm.

Summary

GiveWell spoke with Dr. Klemm of Helen Keller International (HKI) to better understand HKI's views on different nutrition programs. Conversation topics included community management of acute malnutrition (CMAM) programs, large-scale food fortification programs, programs designed to improve early life growth, and HKI's use for additional funding.

Community management of acute malnutrition (CMAM)

CMAM programs involve conducting community-based screenings to identify children with acute malnutrition, providing the children with ready-to-use therapeutic food (a consumable mixture enriched with micronutrients), and continuing treatment until the children have recovered. Nutrition programs such as CMAM are an important aspect of addressing public health, particularly in developing countries with high rates of malnutrition.

Evidence of impact

Observational studies that have examined children with severe acute malnutrition (defined by weight-for-height z-scores below -3) indicate that these children have eight or nine times the mortality risk of like children who are not severely malnourished.

CMAM programs typically treat children until they are no longer considered to have severe acute malnutrition (weight-for-height z-scores above -2 or -1). At this time, however, children have not yet developed lean muscle mass and may be at risk of returning to a state of severe acute malnutrition. This risk is heightened by the fact that many of the children treated by CMAM programs remain in the environment where they became malnourished.

Various studies have conducted follow-up surveys of children treated by CMAM programs to determine children's long-term nutritional health outcomes and to estimate the programs' effects on child mortality. Recently published studies looking at the cost-per-DALY averted by CMAM programs have also found that they are a cost-effective intervention.

HKI's CMAM program

HKI's CMAM program focuses less on providing treatment and more on conducting screenings and referring children to treatment. However, in some countries, HKI also provides lipid-based nutrient supplements (LNS) to children aged 6 to 23 months and follows them for 18 to 24 months to analyze long-term outcomes such as growth. HKI provides these nutrient supplements to children prophylactically and irrespective of a child's nutritional status.

Large-scale food fortification

Evidence of impact

The Copenhagen Consensus found that large-scale food fortification programs produce benefits 16 to 30 times greater than the cost of the intervention over a lifetime.

Evidence of impact for vitamin A fortification

A recently published study of vitamin A fortification of oil in Cameroon found no change in vitamin A status one year after fortification. HKI believes there are reasonable explanations for the lack of impact in this study but found the results surprising.

Evidence of impact for iron fortification

There is some concern that iron fortification may increase risk of malaria, particularly in Sub-Saharan Africa. It remains unclear if iron fortification is safer when iron is added to foods.

Programs to improve early life growth

Evidence of impact

Three large randomized controlled trials (RCTs), the "WASH Benefits" trials in Bangladesh and Kenya and the "SHINE" trial in Zimbabwe, evaluated nutrition programs that included the provision of LNS and, despite high-quality implementation, found limited changes in child growth caused by the use of LNS. In general, RCTs that have studied the impact of LNS on early life growth in children have found a 0.1 to 0.25 z-score increase in child length, which is not significant enough to establish healthy growth. Two forthcoming studies (one from Burkina Faso and one from Mali) conducted by the International Food Policy Research Institute in collaboration with HKI show that a preventive intervention, combining behavior change communication and small-quantity LNS, reduced stunting and anemia in children <2 years old and improved the timely introduction of complementary foods. Another forthcoming study in Burkina Faso, conducted by the same two organizations, that added LNS to an enhanced homestead food production intervention reduced stunting and iron deficiency anemia and improved vitamin A status.

After conducting and reviewing studies of interventions aimed at improving early life growth, HKI believes there may be multiple unknown factors constraining growth in children and limiting the success of these interventions. One potential constraint is that the intensity of the interventions is not sufficient to significantly impact a child's growth trajectory. Another possible constraint is that the nutrient supplements provided to children lack high quality amino acids necessary for optimal growth (observational research has linked the quality of dietary proteins a child receives to their growth pattern). There may also be complications occurring before conception or while a child is in-utero that constrain optimal growth after the child is born.

HKI's work to improve early life growth

HKI's work to improve early life growth includes conducting direct nutrition interventions—including the promotion of exclusive breastfeeding, early initiation of breastfeeding, and complementary feeding—as well as integrated nutrition programs that indirectly affect early life growth. The latter category of interventions targets low-income communities and includes fostering small-scale horticulture and poultry and egg production. Since women are often burdened with a significant amount of work relating to agriculture and home care, HKI's integrated nutrition interventions also include a gender component that promotes a supportive environment for women, task-sharing between men and women, and increased decision-making power for women (particularly when decisions relate to how household assets like meat and eggs are used).

HKI's uses for additional funding

Expanding HKI's integrated nutrition program model in West Africa

Acute wasting and linear growth retardation usually coexist within populations, yet program models to address each of these conditions have evolved separately. Acute wasting often results from an immediate problem, such as a crisis induced by illness or seasonal food shortages, and is accompanied by high risk of mortality. Thus, treatment solutions which are swift and therapeutic have been developed within the medical profession. By contrast, programs concerned with improving child growth have focused on addressing long-standing determinants of the condition using a combination of approaches to improve access to nutrient dense food, improve caring practices, and improve the use and quality of health services and hygiene conditions. Because program models for each of these two conditions developed separately, few programs are designed to both treat and prevent these different manifestations of undernutrition.

If HKI received additional funding, it would fund community-based nutrition programs in West Africa designed to prevent children from developing serious nutrition issues. This type of program would hold community screenings to identify children that may benefit from treatment. The treatment would likely take a behavior change approach and include the provision of LNS.

Improving treatment effectiveness

Nutrition programs often suffer from significant attrition, which may be caused by long distances to clinics and a variety of other factors. HKI would be interested in using additional funding to improve its effectiveness by testing various community-based models for treating severe acute malnutrition.

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