

Thrive: Targeting Malnutrition in Children Under-Five in Bolivia's Indigenous Population

Leah McCaskey BSPH(c)

Faculty Advisor: Comfort Olorunsaiye, PhD

Malnutrition is a serious public health issue that has been linked to an increase in morbidity and mortality¹. Poor nutrition can lead to severe health issues, including stunted growth, developmental disabilities, immune deficiency, chronic fatigue, and in the most severe cases, death¹. Children under the age of five are the most vulnerable to malnutrition because of the immense nutrition requirements for physical and mental development. Bolivia has the highest prevalence of under-five malnutrition in South America, with 25 percent of the country's children experiencing hunger². Micronutrient deficiencies, such as iron deficiency anemia and vitamin A deficiency, are very common among the under-five population. Poor nutrition-related health outcomes are disproportionately distributed across the Bolivian population; the stunting rates in the Andean population is 50.5 percent, over double the nonindigenous population stunting rate of 23.7 percent³. In addition, the prevalence of iron deficiency anemia in the Andean population is 42.2 percent, much higher than the national prevalence of 23.7². The disproportionate burden of malnutrition in the Andean population is not only a public health issue but a human rights issue as well.

Thrive is a 12-month pilot program with an overarching aim to provide a holistic solution to the severe health disparities between Bolivia's Indigenous and nonindigenous population through the reduction of malnutrition in children under-five. To improve the nutritional outcomes for children under-five in the indigenous population the project will provide 100 households, with expectant mothers and/or children under-five, with a monthly conditional cash transfer. The transfer would be equal to a 10 percent increase in the regional average annual income (about 26 USD). Thrive will also provide nutritional supplements for the most severe

1. Blossner, M., De Onis, M., & Prüss-Üstün, A. (2005). Malnutrition: quantifying the health impact at national and local levels.
2. Weisstaub, G., Aguilar, A. M., & Uauy, R. (2014). Treatment and Prevention of Malnutrition in Latin America: Focus on Chile and Bolivia. *Food and Nutrition Bulletin*, 35(2_suppl1). doi: 10.1177/15648265140352s106
3. (2019). World Bank Open Data. Retrieved from <https://data.worldbank.org/>

deficiencies, such as vitamin A, iron, zinc, and calcium. To reduce the disparity in nutritional outcomes the program staff will be provided with cultural competency training, run by members of the target community. To improve healthcare access for pregnant women and children under-five the program will require expectant mothers, enrolled in the conditional cash transfer, to attend a minimum of four prenatal checkups and one postnatal checkup provided through popup clinics. In addition, the mothers enrolled in the program will be required to attend maternal counseling sessions on various nutrition-related health topics. The project will require a budget of 441,669 USD to cover the cash transfer, personnel, equipment, maintenance, travel, participant costs, and other direct costs.

Program success will be determined by evaluating specific indicators for each program objective. Thrive will be deemed successful if there is a decrease in micronutrient deficiencies in the target population; an increase in pre- and postnatal care utilization; an increase in midwife post-training knowledge of maternal nutrition; a change in maternal attitudes toward breastfeeding, knowledge of complementary feeding practices, awareness of age-appropriate diet, and knowledge of iron and vitamin-rich foods; and an increase in household Food Consumption Score (FCS). After a full evaluation is completed all stakeholders involved, including the Bolivian Ministry of Health and the Pan American Health Organization will receive a copy with recommendations based on the findings.

The Conditional Cash Transfer is a sustainable solution because it will stimulate the local economy while providing extra resources to poor households. The financial stimulus is linked to evidence based solutions such as education and increased health care utilization. By decreasing micronutrient deficiencies and improving overall community health, the next generation will be better equipped to exit the cycle of poverty.