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Combating Malnutrition in Guatemala  
through the Distribution and Use of Sprinkles  
A UNICEF Proposal, June 2009

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Photo Cover

Guatemala: A brother and sister from the Quiché indigenous group lean against each other in the village of Concepción. © UNICEF/NYHQ1993-1868/ Franck Charton

## Introduction

Malnourished children are not just hungry children. They also lack critical vitamins and nutrients, leaving them more vulnerable to common childhood illnesses, less likely to recover from disease, and stunted physically.

*Malnutrition contributes to more than half of all child deaths worldwide. As such, malnutrition remains one of the world's most serious health problems.*

Though the effects of malnutrition are dangerous to all children, those falling victim to the condition during the first two years of their lives face the most threatening consequences. Malnutrition in infants and toddlers causes lower intelligence and reduced physical capacity. If children don't have the best start in life during this critical period, the impacts of malnutrition are irreversible. The devastating effects of malnutrition have societal impacts as well. Communities that struggle with malnutrition are far more likely to witness reductions in productivity, slowed economic growth, and a perpetuation of poverty. The ultimate result is that chronic malnutrition creates a vicious cycle of poverty that has the potential to pass from generation to generation.

Right now, impoverished families in Guatemala are in desperate need of help. Only a small portion of them are being

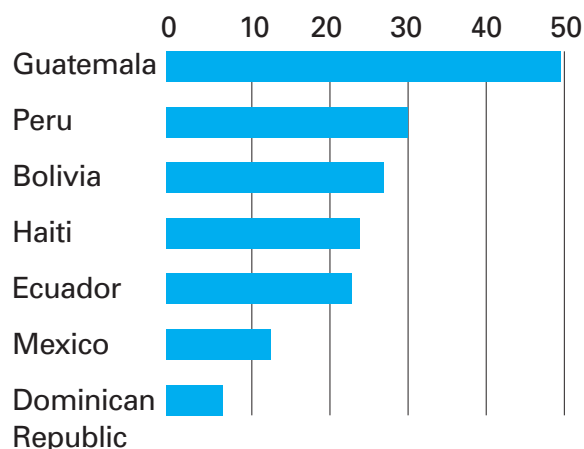
reached. They're barely surviving, and their children are being swept up in a vicious cycle that needs to be broken. With 13 million inhabitants, Guatemala is the most heavily populated country in Central America. More than half of the Guatemalan population lives in poverty, and around 16 percent live in extreme poverty. According to UNICEF data from 2007, Guatemala has the highest percentage of chronically malnourished girls and boys in Latin America, and the fourth highest in the world. Half of the country's children suffer from chronic malnutrition.

The situation is even worse for indigenous families who mainly live in rural areas. Close to half of Guatemala's population are members of indigenous groups that speak 22 different languages. Though one out of two Guatemalan children suffers from chronic malnutrition nationally, malnutrition can impact 80 percent of children living in indigenous communities. The problem commonly manifests itself in significantly stunted growth and lowered IQ scores.

Micronutrient deficiencies are so widespread among Guatemala's children that the prevalence of anemia is nearly 40 percent. The prevalence of vitamin A deficiency is almost 20 percent among Guatemalan children under the age of five. Although no data on the prevalence of zinc deficiency is available, it has also been identified as a public health problem. Zinc has recently been identified as a key element in infantile growth, which accounts in part for Guatemala's high prevalence of stunting and the recurrence of infectious diseases.

Moreover, increasing food prices worldwide have raised Guatemalans' cost of living, further compounding the problem. The poorest of the poor are the most vulnerable. Faced with rising food prices, families adopt different strategies to adapt. For instance, many families are cutting down on more expensive foods with higher nutritional value and reducing the quantity of the food they consume.

*Percentage of Children under 5 with Stunted Growth Due to Malnutrition—2007*



This situation will lead to an increased prevalence of chronic malnutrition, a deterioration of public health and conditions of poverty from which it is difficult to escape.

### **Sprinkles: A Simple, Cost-Effective Intervention**

UNICEF knows that the majority of deaths caused by malnutrition and disease are avoidable through the use of simple, cost-effective, and time-proven interventions. One of UNICEF's principal strategies for reducing micronutrient deficiencies is food fortification programs for specific vulnerable groups. With your support, UNICEF aims to improve the nutritional status of Guatemalan children from six months to three years of age. To do so, UNICEF will be utilizing Sprinkles (known as *Chispitas* in Latin American countries). The introduction of Sprinkles is an innovation in home fortification that addresses vitamin and mineral deficiencies. This unique delivery system provides micronutrients to vulnerable populations by enabling families to fortify many different semi-solid foods in the home. Their standard preparation contains iron, vitamin A, vitamin C, zinc and folic acid.



Photo Right

Guatemala: A boy eats his meal at a community center in Chiquimula Department. © UNICEF/ NYHQ2007-2763/Claudio Versiani

Sprinkles are packets (like small packets of sugar) containing a blend of micronutrients in powder form, which are easily sprinkled onto foods prepared in the home. Any homemade food can be instantly fortified by adding Sprinkles. Coating of the iron prevents changes to the taste, color or texture of the food to which Sprinkles are added. Sprinkles were developed by the Sprinkles Global Health Initiative to prevent and treat micronutrient deficiencies among

young children and other vulnerable groups at risk.

UNICEF distributes Sprinkles around the world. In practice, UNICEF has learned that the use of Sprinkles in Guatemala carries several tangible advantages. Here are just a few:

- Their micronutrient content fulfills the daily dietary recommendations for children from 6 months to 5 years of age.
- Sprinkles can provide the daily dose of micronutrients to each child regardless of the quantity of complementary food that is fed.
- There are little to no changes to the taste, color or texture of the food to which Sprinkles are added.
- The packets are easy to use and convenient. No special measuring utensils or handling is required and they can be given at any mealtime during the day.
- One does not have to be literate to learn how to use them.
- The use of Sprinkles does not require any change in food practices as it can be mixed with homemade foods.
- Sprinkles can be easily incorporated into the busy rhythm of everyday life.
- The packets are lightweight and thus are simple to store, transport and distribute. Sprinkles have a long shelf-life, even in hot conditions (2 years).
- The packaging of Sprinkles is attractive and thus is easily accepted.
- The use of Sprinkles has been embraced by Guatemala's National Strategy for the Reduction of Chronic Malnutrition which will ensure sustainability over the long term.
- The low cost of Sprinkles is in line with UNICEF's low-cost, effective strategies.

In sum, the use of Sprinkles is a simple, low-cost intervention that is highly effective. Just \$25 can provide seven Guatemalan children with the vitamins



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Guatemala: Maria Alejandra Raxon Homez weighs a toddler in a sling scale at a neighborhood center in Canton Cerro Partido. © UNICEF/ NYHQ2007-2765/Claudio Versiani

and minerals they need for an entire year. Your support will allow a child to receive a total of 120 packets of Sprinkles a year – 60 packets every six months. Parents are instructed to give their children one packet a day for 60 days and they're nutritional needs will be covered for six months. Then they have to repeat. That's all it takes.

### **Conclusion**

The number of preventable child deaths can be reduced with the implementation of effective health care and nutrition programs—and UNICEF is the organization best equipped to provide these initiatives. Malnutrition requires both short-term and long-term solutions. UNICEF is offering both. UNICEF aims to provide communities with the tools and knowledge to sustain their own healthcare and nutrition programs. UNICEF-assisted health centers reflect this mission, delivering services while also training families and community health workers on the best possible health practices.

With your support, UNICEF will provide Sprinkles to 35,000 Guatemalan children across 17 municipalities. Through Sprinkles supplementation, UNICEF aims

to prevent anemia due to iron deficiency; to avoid growth retardation due to zinc deficiency; to prevent gastrointestinal infections related to vitamin A deficiency. Your support will not only allow UNICEF to provide Sprinkles to health centers, but it will also allow UNICEF to provide adequate counseling to mothers or child care providers in order to administer Sprinkles in the recommended manner and frequency. During the medical consultation or in the home visit, health providers have the opportunity to teach mothers how to prepare Sprinkles adequately in order to preserve its efficiency. This is also an opportunity in which it is possible to counsel mothers on other aspects of child care, including hygiene, breastfeeding, complementary feeding and the use of available health services.

UNICEF will also supervise and improve data on micronutrient supplementation coverage by establishing a Monitoring and Supervision Plan in order to guarantee follow up on the fulfillment of micronutrient supplementation with Sprinkles in children six months to three years of age. Based on the information gathered, UNICEF will be



Photo Right

Three packets of Sprinkles.  
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able to ascertain if the proposed goals have been reached.

Your support will also allow UNICEF to develop a manual that could be useful in other countries interested in implementing the Sprinkles strategy for micronutrient supplementation. UNICEF proposes to produce this manual and distribute it throughout the country as well as in other countries of the region.

UNICEF, and the growing number of people like you who support us, believe in a day when every child can grow up healthy and educated with hearts and minds full of

possibility and peace, a day when every child has a childhood, a day when every child lives. With your support, UNICEF can make a world of difference in the lives of 35,000 Guatemalan children, their families, and their communities. Thank you for your interest in UNICEF's lifesaving programs in Guatemala.

### Budget

The total estimated cost for this project is \$175,000. If we are successful at raising these funds, UNICEF will be able to conduct the following activities:

- Purchase and distribute 4,200,000 packets of Sprinkles to 35,000 children over the course of a year at local health centers.
- Train over 300 health providers at local health centers.
- Monitor and supervise all activities related to the distribution of Sprinkles.
- Provide local health centers with equipment necessary to monitor the growth of children.
- Develop and publish a manual that will be shared within Guatemala and among neighboring countries wishing to replicate the success of the program.

**To donate directly to the Sprinkles Program please visit [www.unicefusa.org/donate/ung](http://www.unicefusa.org/donate/ung)**



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We are deeply grateful to our donors for their incredible generosity and personal involvement in UNICEF's growing child survival mission. Every contribution, great or small, means a lifeline for children and their families—clean water, vital health care, better nutrition, opportunities for education, protection from abuses and exploitation, and

emergency help in times of crisis. With your help, we can reach a day when zero children die of preventable causes.

Believe in the possibility of zero.

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