ALLIANCE FOR NUTRITION
Contents

1. Introduction
   - Background
   - Rationale
2. What we do
   - Goal
   - Approach
   - Operating Model
   - Methodology
   - Recommended Interventions
3. Metrics
   - Performance Indicators
4. Alliance Member Action
A BETTER GUATEMALA

+ PROSPEROUS Guatemala
  • More employment
  • More investment
  • More State income

+ SOLIDARY Guatemala
  • More and better social investment during people’s life-cycle

+ SECURE Guatemala
  • More security and justice for peaceful coexistence
  • Rule of Law

STRENGTHENING INSTITUTIONS FOR CONTINUITY

Introduction - Background
Rationale for an Alliance for Nutrition

• Members from the private sector who bring different perspectives to the problem
• The problem is multi-causal
• Its solution requires:
  • Unification of resources used toward the common goal
  • Multi-sectorial collaboration
  • Focus on cost-effective, evidence-based interventions
  • Long-term commitment
Guatemala’s Nutritional Status

• 49.8% of children between 3 – 59 months suffer from chronic malnutrition (stunting).¹

• 40% of child deaths are attributed to malnutrition.²

2. 2000
Why chronic malnutrition is a public health concern?

• The long-term effects of malnutrition are irreversible.

• The greatest impact is permanent brain damage due to metabolic and structural changes that are irreversible.¹

• Brain development is most sensitive to nutrition between conception and 2 years of age

Normal Brain Growth

AT BIRTH
- 100 millions of neurons
- The brain weighs 0.77 - 0.88 lbs
- 25% of adult size

12 MONTHS
- 100 millions of neurons
- The brain weighs 1.76 – 1.98 lbs

36 MONTHS
- 100 millions of neurons
- The brain weighs 2.64 – 3.30 lbs
- 80% of adult size
Brain development is most sensitive to nutrition between conception and 2 years of age

STRUCTURAL CHANGES
• Synaptic Connections
• Cell division
• Growth of dendrites
• Myelination
• Production of glia

A model neuron (Credit: LadyofHats, Wikimedia Commons)
To visualize the effects of malnutrition...

Neuronal connection of a malnourished breastfeeding infant

Neuronal connection of a nourished infant

Malnutrition’s effect on brain size

**Burden of Knowledge**

1000 Days
Brain scan – two 3-year old children

Normal | Malnourished

© 2007 Dr. Fernando Monckeberg Barros, Universidad Diego Portales
The child is reported to have suffered from extreme neglect (abandono crónico) and the degree to which other factors such as social stimulation may have impacted this child are unknown.
Critical Period:  
The First 1000 Days: conception – 2 years of age

- Cerebral development is dependent on the interaction between genes and the environment
- Nutrition, sensory stimulation, and social interaction after birth affects brain development, which has an effect on:
  - Cognitive development
  - Social and emotional development
  - Motor skills
Intervening during the First 1000 Days

**Longitudinal Study INCAP (1969-77)**
- Took place in 4 villages in rural Guatemala
- Case/control trial
- Included a nutrition intervention (Incaparina and skimmed milk) for mothers and children aged < 7 ys.
- **Results:** Chronic malnutrition diminished only in children < 3 ys., with a greater effect on children < 2 ys.

**Follow-up Study INCAP (2002-04)**
- Results when case subjects were compared to controls:
  - In men, hourly pay rate was 46% higher and yearly income was US$914 higher (2002)
  - In women, school attainment levels improved
  - For both genders: reading levels and intelligence quotient

Why we care

- Malnutrition in Guatemala represents an economic cost of 11.4% of GDP.¹
- Malnourishment causes limited opportunities for socioeconomic development.
- To attain a country with greater equality and greater opportunities, the issue of malnutrition must be addressed.

¹. El Costo del Hambre, Cepal, 2007
Guatemala vs. the rest of the world

Children under height for age (Under age 5)

## Prevalence of malnutrition vs GDP

<table>
<thead>
<tr>
<th>Country</th>
<th>Malnutrition prevalence</th>
<th>Malnutrition reduction rate of yr in last 10 yrs</th>
<th>GDP/Capita PPP</th>
<th>Health Expenditure/Capita</th>
<th>HDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guatemala</td>
<td>49.8%</td>
<td>0.9%</td>
<td>$5,069</td>
<td>$196.20</td>
<td>0.57</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>43.2%</td>
<td>2.9%</td>
<td>$1,790</td>
<td>$23.29</td>
<td>0.50</td>
</tr>
<tr>
<td>Bolivia</td>
<td>27.2%</td>
<td>2.3%</td>
<td>$4,772</td>
<td>$96.20</td>
<td>0.66</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>18.1%</td>
<td>6.3%</td>
<td>$2,372</td>
<td>$53.47</td>
<td>0.60</td>
</tr>
</tbody>
</table>
At a local level, there doesn’t exist a direct relationship between malnutrition prevalence and income.

Malnutrition = 29.0066 + 0.8040 * Extreme Poverty

$R^2=0.40$

- **At a local level:**
  - **Patzicía, CH**
    - Extreme Poverty: 9%
    - % Malnutrition: 62%
  - **Soloma HU**
    - Extreme Poverty: 17%
    - % Malnutrition: 82%
  - **Almolonga, QU**
    - Extreme Poverty: 6%
    - % Malnutrition: 58%
  - **SJ. Pinula, Gu**
    - Extreme Poverty: 2.3
    - % Malnutrition: 49%
  - **Quesada, JT**
    - Extreme Poverty: 19%
    - % Malnutrition: 15%
  - **Nuevo Progreso, SM**
    - Extreme Poverty: 30%
    - % Malnutrition: 27%
  - **CHISEC, AV**
    - Extreme Poverty: 52%
    - % Malnutrition: 43.20

**Introduction - Rationale**
Malnutrition vs. Extreme Poverty

% of the population with extreme poverty (2002)

% of chronic malnutrition in children < 5 (2008)

GUATEMALA IS AN OUTLIER!

Malnutrition does not relate to a country’s…

• GDP/Capita
• Public and private health expenditures as a ratio of total population
• Human Development Index

Economic growth certainly helps, but it is not a limiting factor!
Socioeconomic inequality and stunting in Brasil by income range 1974-2007

Low height for age and low weight for height according to income quintiles, Guatemala 2008

Old Theory

Malnutrition is caused by poverty, which in turn is solved through integral rural development, greater government intervention, growth and employment.

Poverty ↔ Malnutrition
New Theory

Malnutrition is one of the main causes of poverty and results from the failure to assure the provision of public services to each family.
What we want to achieve

Goal: Reduce yearly by 2% the prevalence of chronic malnutrition

In 2013, an inflection point
What we want to achieve

GOAL: Ensure that evidence-based, cost-effective interventions to prevent and treat malnutrition are delivered at country level.
Mission: Reduce high rates of chronic malnutrition in Guatemala by coordinating efforts and resources to pin up, monitor and evaluate effective public policies.

Key Objective
Reduce the prevalence of chronic malnutrition in children under 5 years of age by 2% points yearly

Key Pillars
1. Public Policy: Advocacy to promote a multiyear state agenda regarding nutrition.
2. Action: Coordination of actions by members of the alliance. Business alliances/market approaches.
4. Resource Management: Search for and manage resources and financing.

Key Metrics
- Ensure nutrition interventions are delivered with national coverage
- Support the coordination of government, international organizations, private sector and civil society
- Prevalence of chronic malnutrition (stunting): height-for-age z-score < 2 sd (WHO) in children under 5 years

Key Performance Indicator (KPI)
Methodology

Coordinate
• Catalyze the coordination of government institutions, international cooperation and private sector to ensure that the issue of chronic malnutrition is part of their interest and political agendas

Evidence the Problem
• Help determine the gap of nutrition intervention coverage for the entire population
• Provide evidence of chronic malnutrition as a public health problem at both local and national levels
• Visualize negative long-term consequences of not addressing chronic malnutrition

Program Tailoring
• Define and promote evidence-based, cost-effective integrated strategies to reduce the incidence of chronic malnutrition
• Help cost the proposed interventions

Evaluate
• Define a standard set of indicators to measure progress
• Construct a monitoring and evaluation system that assesses the presence and functionality of programs at a national level
• Follow up on the goals and milestones defined by government authorities

Political Demand
• Generate evidence that helps guide and modify nutrition policies and programs at a national level
• Generate social demand so that essential public services that reduce chronic malnutrition are delivered
Recommended interventions

**BEHAVIOR/CARE**
- Exclusive breastfeeding promotion
- Complementary feeding promotion
- Hygiene practices & hand washing with soap

**HEALTH**
- Household secure water sources
- De-worming
- Zinc for diarrhea
- Therapeutic feeding with RTUF

**FOOD**
- Vitamin A supplementation
- Iron/ folic acid supplementation
- Adequate salt iodization
- Micronutrients/Sprinkles
- Access to health services
- Generate sources of income through value chains
# Problems and Indicators

<table>
<thead>
<tr>
<th>Key Problems</th>
<th>Problem Indicator</th>
<th>Status</th>
<th>Interventions</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor Feeding Practices</td>
<td>% infants 0-6 months exclusively breastfed</td>
<td></td>
<td>Exclusive breastfeeding promotion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% infants 6-12 months who receive solid, semi-solid foods along with breast milk</td>
<td></td>
<td>Complementary feeding promotion</td>
<td></td>
</tr>
<tr>
<td>Soil, waterborne &amp; endemic diseases</td>
<td>% households using water treatment methods</td>
<td></td>
<td>Household water treatment, education and equipment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% households with access to improved water source</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% population washing hands prior to eating</td>
<td></td>
<td>Hand washing with soap</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% children under 5 with soil transmitted helminthes</td>
<td></td>
<td>De-worming</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% children under 5 with diarrhea</td>
<td></td>
<td>Zinc for diarrhea</td>
<td></td>
</tr>
<tr>
<td>Prevalence of acute malnutrition</td>
<td>% children 6-59 months with severe acute malnutrition</td>
<td></td>
<td>Therapeutic management with RTF</td>
<td></td>
</tr>
<tr>
<td>Insufficient micro and macro nutrient intake</td>
<td>% children 9-59 months receiving Vit. A supplements</td>
<td></td>
<td>Vitamin A supplementation for children</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% post partum women receiving Vit. A supplement</td>
<td></td>
<td>Vitamin A supplement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% children under 5 with iron-deficiency anemia</td>
<td></td>
<td>Micronutrients for children under 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% women with iron-deficiency anemia</td>
<td></td>
<td>Iron/folic acid supplements for pregnant women</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% households consuming salt adequately iodized</td>
<td></td>
<td>Availability of adequately iodized salt</td>
<td></td>
</tr>
<tr>
<td>Insufficient access to food &amp; health services</td>
<td>% of population living under national poverty line</td>
<td></td>
<td>Income generation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of population with close access to quality health services</td>
<td></td>
<td>Access to health services</td>
<td></td>
</tr>
</tbody>
</table>
Alliance members take action

- Alliance members are committed to the goal of reducing the prevalence of chronic malnutrition
- 6 alliance members have selected 6 municipalities in Guatemala where they will assume a leadership role
- Leaders will ensure that the recommended interventions that address chronic malnutrition are made available in the municipalities they have selected
- Coordination with local government, community leaders, non-governmental organizations, and civil society will be crucial
Selected Municipalities

- Santa María Cahabón, Alta Verapaz – Asociación Puente
- Santa Cruz la Laguna, Sololá – Pastoral y Fund. CC
- Santiago, Sacatepéquez – Coop. 4 Pinos
- Nebaj, Quiche – Agexport
- San Miguel Ixtahuacan, San Marcos – Funcafe
- San Mateo Ixtatán - CABCORP
Proposal

Standardize interventions
Make them effective
Make them measurable

The seal would be recognized as the symbol which indicates that the organization:
- implements the recommended interventions
- utilizes standardized indicators to measure performance
- is member of a network of other organizations that share best practices and lessons learned

DEVELOP A SEAL

This certification and verification method would ensure that the organization that carries the seal has been audited and is held accountable for results in its area of influence.

Examples
Alliance Members

<table>
<thead>
<tr>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Pinos/García Comparini</td>
</tr>
<tr>
<td>CentraRSE</td>
</tr>
<tr>
<td>Fundación Carlos F. Novella</td>
</tr>
<tr>
<td>Fundazuca</td>
</tr>
<tr>
<td>Despertemos 2012</td>
</tr>
<tr>
<td>GuateAmala</td>
</tr>
<tr>
<td>Fundación Juan Bautista Gutierrez</td>
</tr>
<tr>
<td>Pastoral de la Infancia</td>
</tr>
<tr>
<td>Kiej de los Bosques</td>
</tr>
<tr>
<td>Asociación Puente</td>
</tr>
<tr>
<td>FUNDESA</td>
</tr>
<tr>
<td>Fundación Castillo Córdoba</td>
</tr>
<tr>
<td>Funcafé</td>
</tr>
<tr>
<td>Agexport</td>
</tr>
<tr>
<td>CIEN</td>
</tr>
<tr>
<td>Iniciativa 58</td>
</tr>
<tr>
<td>CACIF</td>
</tr>
<tr>
<td>CBC</td>
</tr>
</tbody>
</table>

Working together towards a common goal
JOIN US IN OUR EFFORT!

Juan Carlos Zapata
jczapata@fundesa.org.gt