



# INTRODUCTION: **Child Survival Basic Training**

for Community Outreach Teams - Sahel Version

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Child Survival Programs for Sahel region and Haiti are in collaboration with University of Maryland Dental School.

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# Every year, millions of children die before their 5<sup>th</sup> birthday.

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- They are lost to their families and communities.
- Community Based Health Care aims to solve this global problem on a local level coordinating efforts and use of resources with families and villages to save those children.

# Can the village, we may wonder, really save these children?

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To ponder that question, we need to consider the resources of both the **Global** and the **Local Village**.

# The **Global Village** has:

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**Knowledge** – *We know what is killing the children, and we know how to stop it.*

**Resources** – *We have the ways and means to protect those millions of children.*

**Logistical capacity** - *We could systematically conquer the causes of preventable deaths in children.*

# The Local Village has:

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**Experience** - *The killer childhood diseases are well known to the villages with high childhood mortality.*

**Commitment** - *The families of children who are dying are working hard every day to promote the cause of Child Survival.*

**Human resources** - *Every village has members already working for a better future.*

# Yet, in spite of our global and local resources...the reality:

- Extreme poverty
- Malnutrition
- Poor sanitation
- Lack of medical care

...is robbing children of their future!



**Childhood  
hunger is  
the root  
cause of  
most of  
the  
deaths.**





# Malnutrition



- Causes immune deficiency.
- Common childhood infections turn into killer childhood diseases.

# Extreme malnutrition is:

- Horrible
- Tragic
- Dangerous
- Easy to recognize



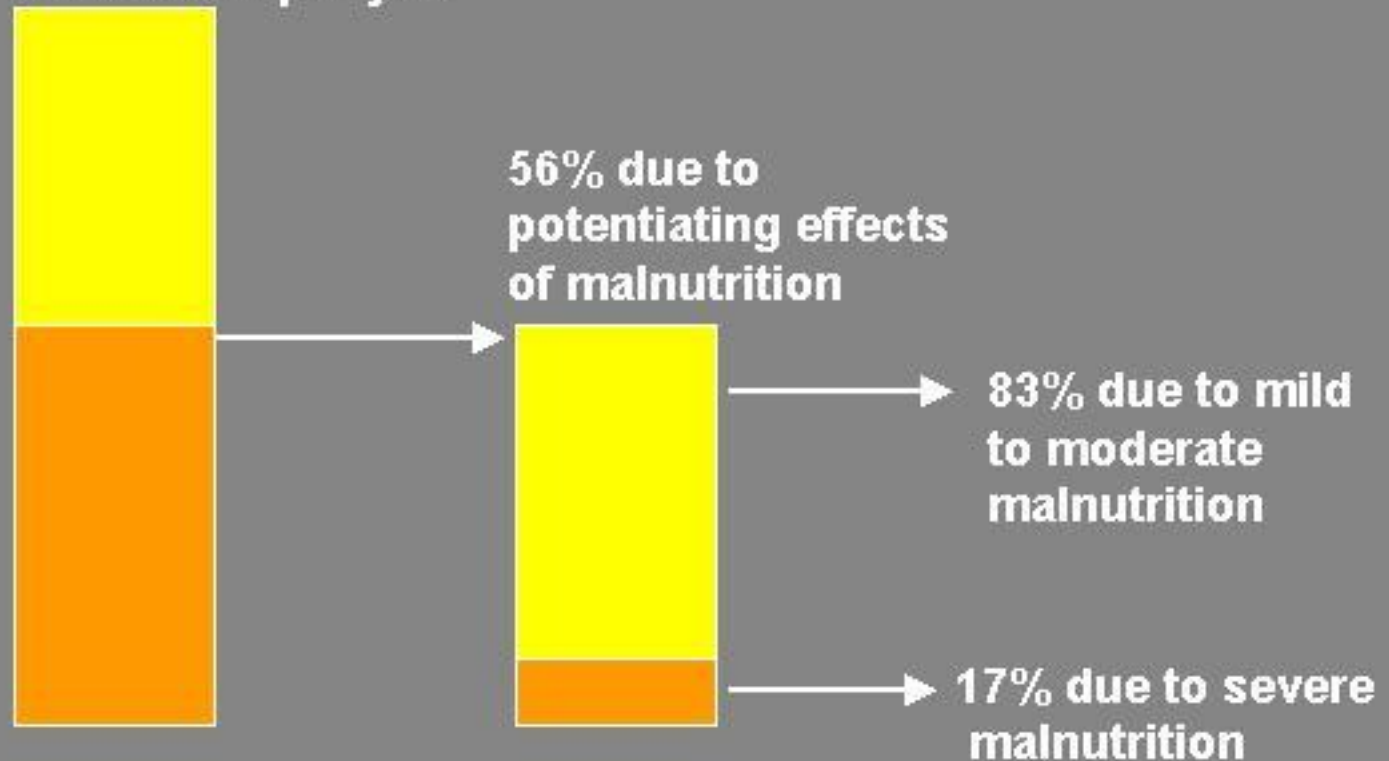
# Yet, *Mild to Moderate* Malnutrition

- Causes *most* of the *millions* of annual cases of childhood *mortality*
- Affects *majority* of Sub-Saharan African children
- *Is more* common than severe malnutrition
- Is sometimes called “Hidden Hunger” or “*Micronutrient Malnutrition*”



# Malnutrition and child death

**11.1 million  
infection-related cases of  
child death per year**



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The diseases noma and nutritional blindness illustrate these points.

We will focus on noma.

# Noma-*The Face of Poverty*

- **Noma:** in Greek, *“to devour”*
- **Cancrum Oris:** in Latin, *“gangrene of the mouth”*
- **Ciwon Iska:** in Hausa, *“the wind disease”*



Courtesy of CO Enwonwu  
WHO Collection

# In the Sahel Region of Africa, Noma, or cancrum oris, is

- An ongoing cause of death in children
- A marker for chronic stunting malnutrition
- A glaring reminder of the consequences of neglected child hunger



# Noma Eradication is a Child Survival Priority because:

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- Noma has a 70-90% case fatality rate.
- Noma claims 140,000 or more victims every year, and survivors face a lifetime of pain and suffering.
- Noma persistence or elimination in a region is an indicator of progress in conquering malnutrition.
- Noma can be eradicated, as it was in the developed world long before the discovery of antibiotics.



# What are the demographics of villages that have this scourge?

- Remote rural
- Poverty stricken
- Lacking sanitation
- Family living space is shared with animals
- Poor access to medical care
- Low immunization rates



# What are the characteristics of children who develop Noma?

- Low birth weight – maternal malnutrition sets the stage for noma.
- Lack of exclusive breast for first six months of life
- Malnourished - Chronic (Acute (wasted), with multiple micronutrient deficiencies)
- Intestinal parasites
- Recent severe infections- especially measles and malaria



# Noma has been well studied.

- We know what causes noma.
- We know how to prevent noma.
- We need to apply that knowledge to protect children at risk from noma and other diseases of malnutrition.



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The study of specific diseases like noma has helped to shed light on how and why “Hidden Hunger” is killing children, and more importantly, what can be done to save children’s lives.

# Specific Nutritional Deficiencies Associated with Noma:

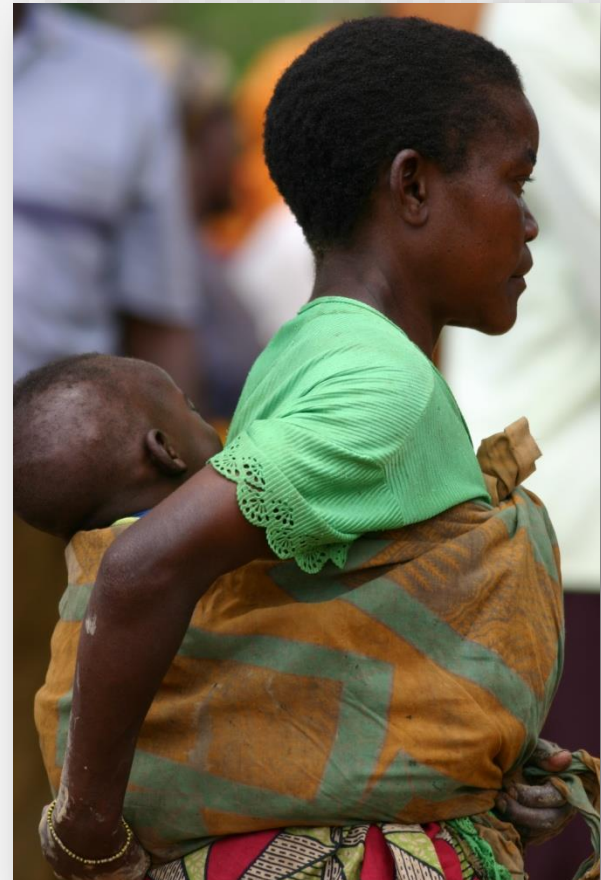
- Vitamin A
- Zinc
- Selenium
- Protein
- Other minerals and vitamins, including Bs, C, D and more



*Courtesy of Peter Clark  
ARCA Associates*

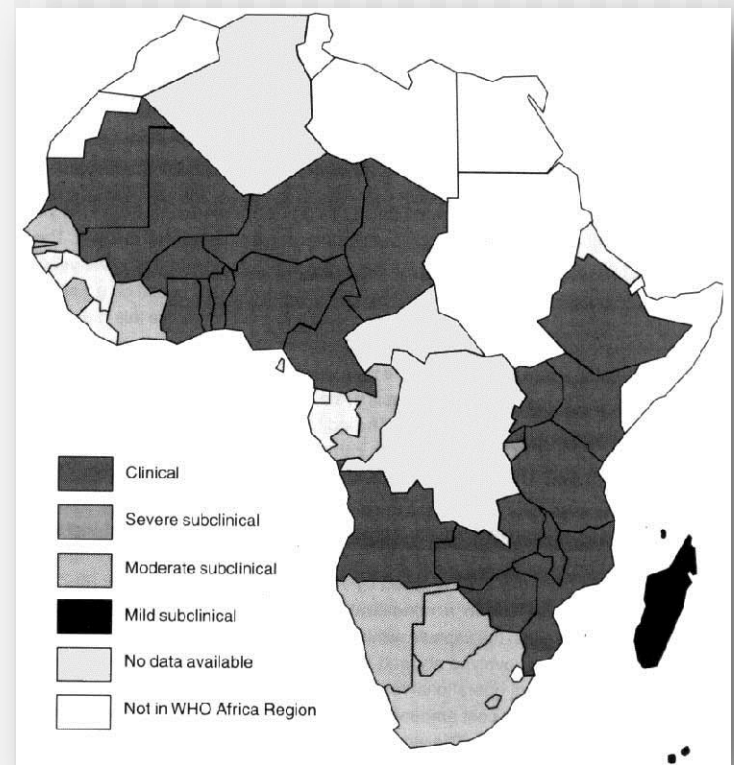
# Known Benefits of Vitamin A:

- Promotes epithelial-mucosal maturation
- Increases immune system function, both humoral (antibodies) and cellular
- Reduces morbidity and mortality in women and children in developing countries



# Consequences of Vitamin A Deficiency:

- Nutritional blindness
- Opportunistic infections
- Increased severity of infections
- Poor growth



Areas of Nutritional Blindness in Africa

# *Another example:*

## Zinc and Childhood Infections

- Zinc is an essential trace element that promotes:
  - Cell division and differentiation
  - Growth and healing
  - Immune system function and mucosa integrity
- WHO recommends universal supplementation in developing countries.
- Zinc prevents death from pneumonia and diarrhea.





# Selenium

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- Widespread deficiency in sub-Saharan Africa
- Crucial role in immune function and growth



*Courtesy of Peter Clark  
ARCA Associates*

These examples illustrate the role of micronutrients.

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That is why  
**Universal Micronutrient  
Supplementation**  
has become a goal of public health.

# Can the village save the child?

The community will need to participate, change old habits and use new tools.

- Vitamin A capsule and Essential Micronutrient distribution
- Zinc fortified dental powder
- Oral hygiene
- Deworming
- Nutritional vigilance program for women and children
- Village training seminars
- Early detection and treatment of illnesses such as noma



*Courtesy of Peter Clark  
ARCA Associates*

# With Prevention and Control of Noma in Communities:

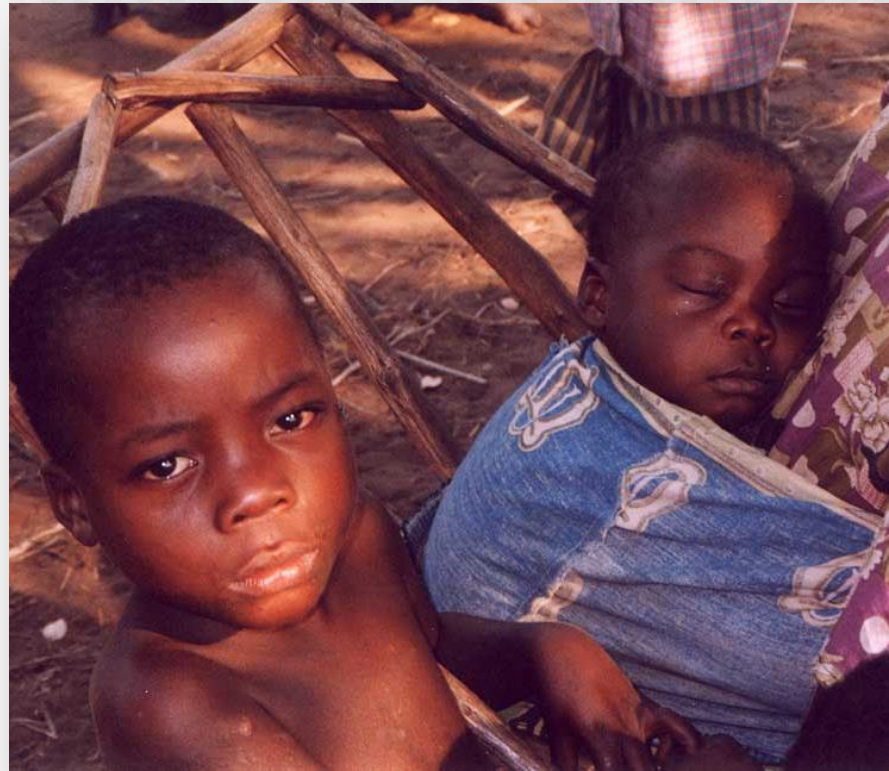
- Infant and child mortality from causes such as pneumonia will decline.
- School performance will improve.
- Maternal mortality rates will improve as Micronutrient Malnutrition in women is treated.



# Imagine children born into poverty:

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- Surviving
- Thriving
- Living  
productive and  
happy lives



# Poverty and Injustice are Root Causes of Malnutrition, yet:

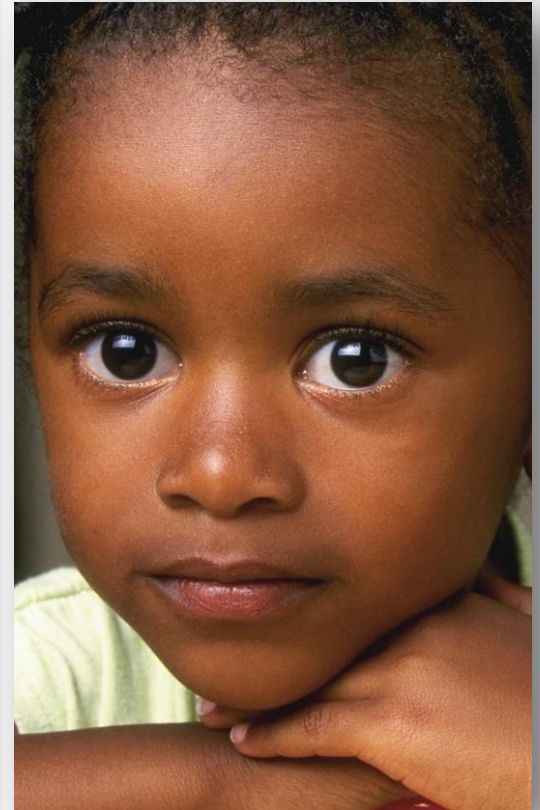
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- Child Hunger can be ended!
- Malnutrition does not have to kill millions of children.
- Diseases like noma can be prevented, even in poor communities.

# Urgent attention is needed!

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Today's children  
cannot wait for  
global poverty  
elimination and  
the advent of  
social justice!



# Irreversible damage

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is being done today, and every day that pregnant women and young children suffer from malnutrition.





# Neglected Hunger, even “*Hidden Hunger*”

Has permanent  
consequences  
in developing

- Brains
- Bodies
- Spirits



# They won't be children forever!

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We have a quickly closing window of opportunity to help the next generation to be

- Strong
- Healthy
- Productive adults



# Program Strategy:

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In close cooperation and coordination with Ministry of Health, NGOs and international aid agencies, teams of health workers and volunteers, receiving logistical and resource support, will be trained and equipped to bring a comprehensive package of basic Child Survival interventions directly & regularly to target villages.

# Program components:

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- Training seminars for health workers and community volunteers who will form outreach teams
- Promotion of universal appropriate vitamin A capsule and Essential Micronutrient distribution
- Deworming community-wide
- Growth monitoring for detection of malnutrition in women and children
- Community–based nutritional rehabilitation
- Prevention, early detection and appropriate intervention for serious, especially oral infections
- Participation with immunization and bed net distribution

# Training Modules:

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1. Noma in an Integrated Approach to Child Survival
2. Deworming
3. Oral Health and Hygiene
4. Detecting Malnutrition and Nutritional Anaemia
5. Teaching Health and Nutrition for Women & Children
6. Using the Materials
7. Documentation & Learning From Our Experiences

# Resources

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- “Vitamin A Deficiency Is Prevalent in Children Less Than 5 y of Age in Nigeria.” (Maziya-Dixon, Akinyele, Sanusi, et al. *Journal of Nutrition*, American Society for Nutrition: 2006)
- “Noma (cancrum oris).” (Enwonwu, Falkler, and Phillips. *The Lancet*: 2006)
- “Noma—The Ulcer of Extreme Poverty.” (Enwonwu. *The New England Journal of Medicine*: 2006)
- “Effects of Vitamin A Supplementation on Immune Responses and Correlation with Clinical Outcomes.” (Villamor and Fawzi. *Clinical Microbiology Reviews*, American Society for Microbiology: 2005)
- Hesperian Foundation “Where There is No Dentist” was resourced for oral health section
- Photos: courtesy of ARCA Associates and Dr. Cyril O. Enwonwu
- WHO IMCI materials
- See Bibliography in training program packet

# Thank you!

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