

HIV/AIDS in Haiti: How can programs supported by the GFATM, PEPFAR and other donors be strengthened?

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World Bank Forum World AIDS Day

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Haiti

Population:	9,400,000
Life expectancy at birth:	60.78 yrs.
Per capita income:	\$ US 699
Human Development Index:	149 th /182
Annual health exp/person:	\$96.00*
MDs/10,000 inhabitants ratio:	2.5
> 50% of population live with	<US\$/2.00/day

** 2006 International Dollars; Sources: CIA world fact book 2009; World Bank Key Development Data and Statistics 2008 ;UNDP Report 2009; World Health Organization 2008; EMMUS report 2003*



Political Background (1957-2009)

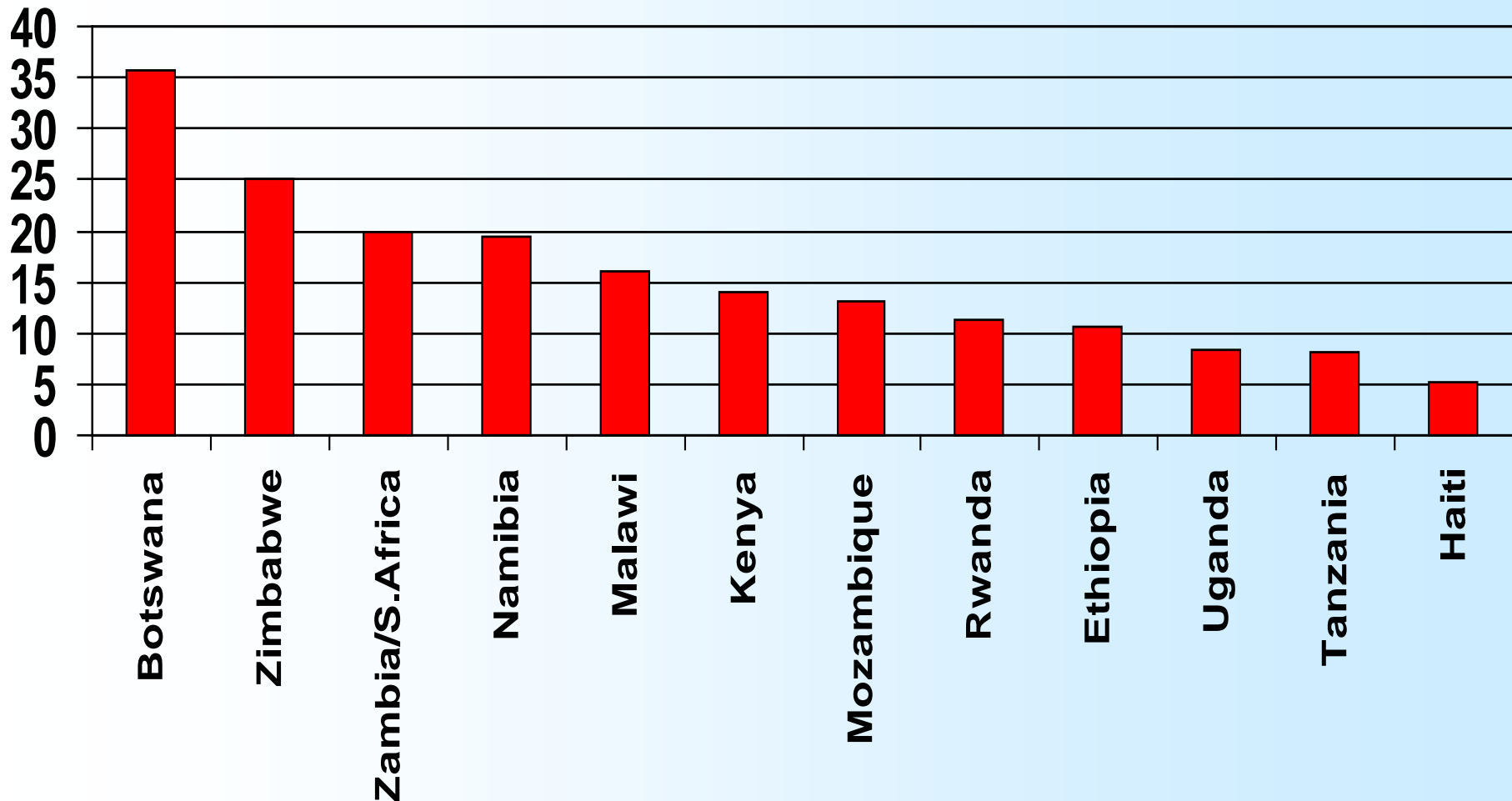


- 1957-1986: Duvalier regime
- 1986-2009: 18 governments marked by social unrest and political violence with presence of foreign troops in 1994 and 2004
- 2008: Major “ food “ riots



HIV SEROPREVALENCE

Most affected countries



■ HIV seroprevalence



Brief History of “Les Centres GHESKIO”

- Creation: May 2, 1982
- Mission: Operational research, services and training in HIV/AIDS and associated diseases
- Partnership with the MOH, Haitian Medical Association and local institutions
- Collaboration with Cornell University, Institut Pasteur
- Continuous support from NIH (1983), Fogarty (1988), and Fondation Mérieux (1998)
- Granted status of “Utilité Publique” by Haitian government (2000)

CHARACTERISTICS OF THE ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS) IN HAITI

JEAN W. PAPE, M.D., BERNARD LIAUTAUD, M.D., FRANCK THOMAS, M.D., JEAN-ROBERT MATHURIN, M.D.,
MARIE-MYRTHA A. ST. AMAND, M.D., MADELEINE BONCY, VERGNIAUD PEAN, M.D., MOLIERE PAMPHILE, M.D.,
A. CLAUDE LAROCHE, M.D., AND WARREN D. JOHNSON, JR., M.D.

New England Journal of Medicine 309:945-950, 1983

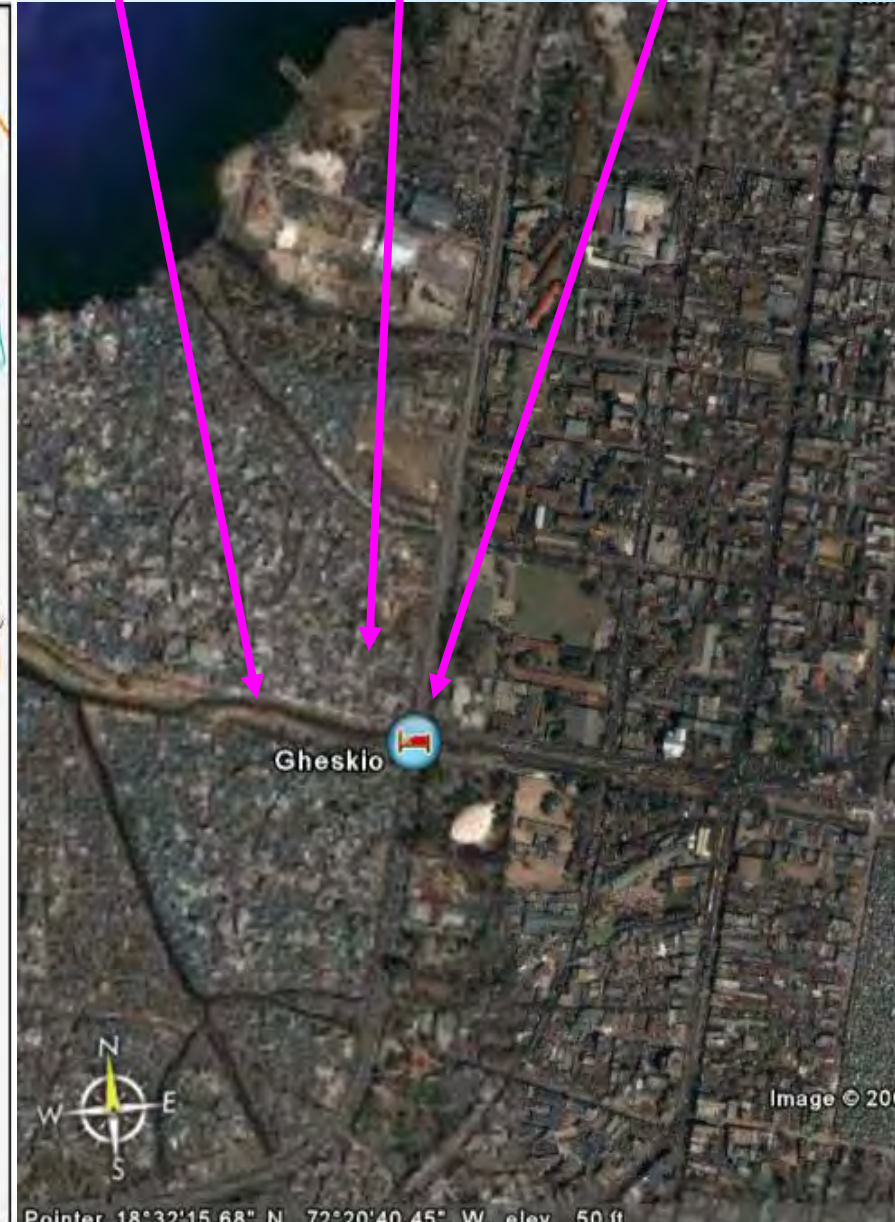
“The first description of AIDS in a developing country”

Map of greater PORT-AU-PRINCE

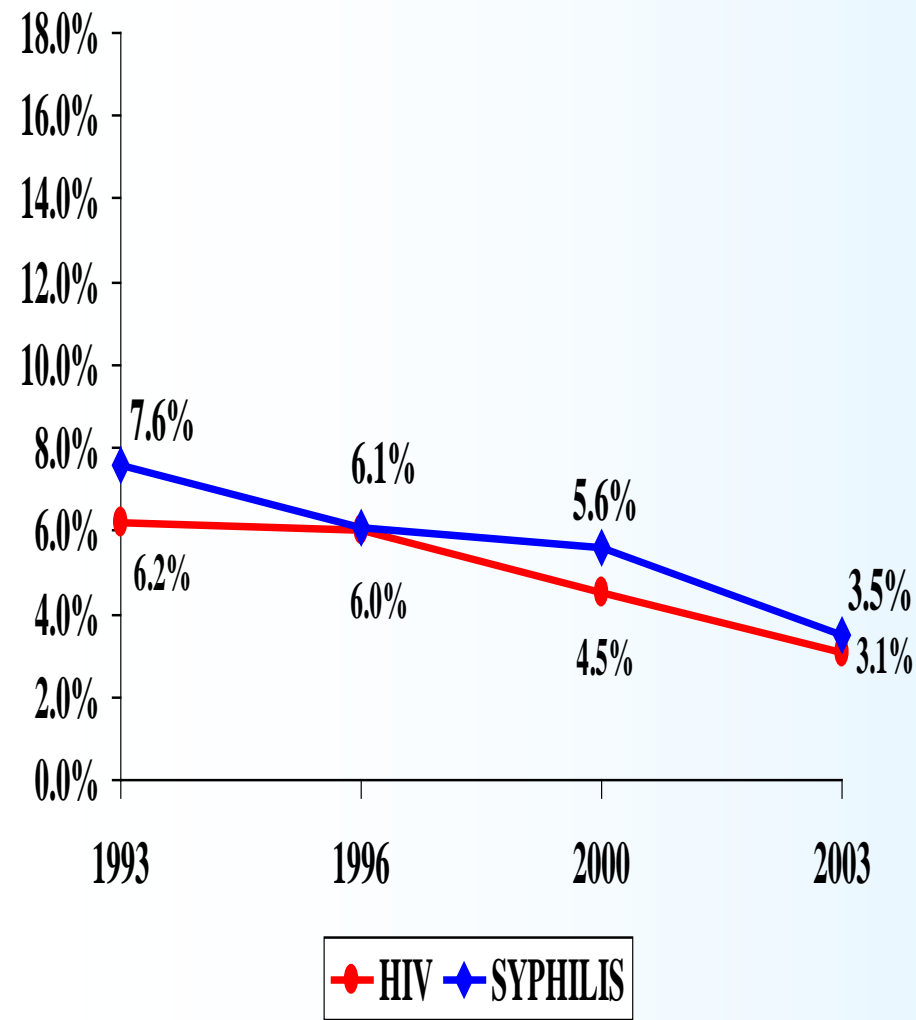
Cité de Dieu

Cité l'Éternel

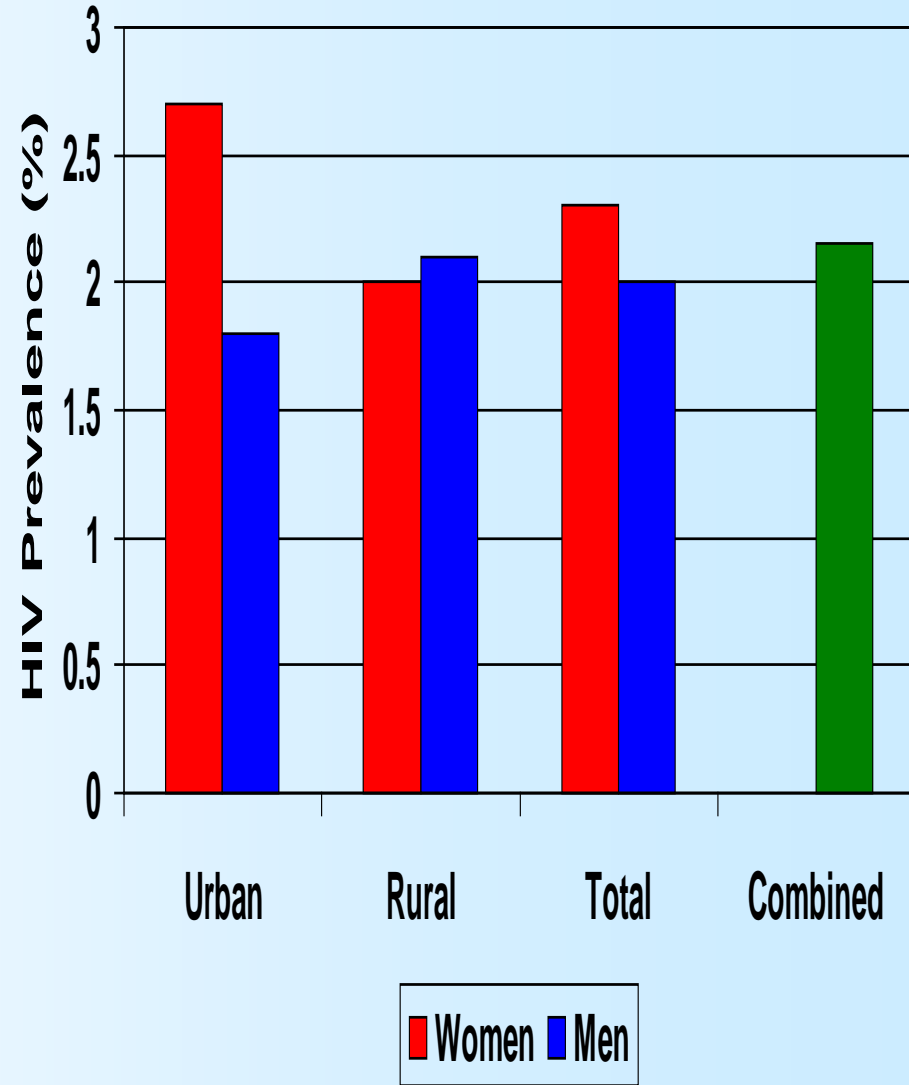
GHESKIO



National HIV and Syphilis seroprevalence (1993 – 2003)



HIV seroprevalence :DHS (2005-2006)



Pregnant women at 1st antenatal visit

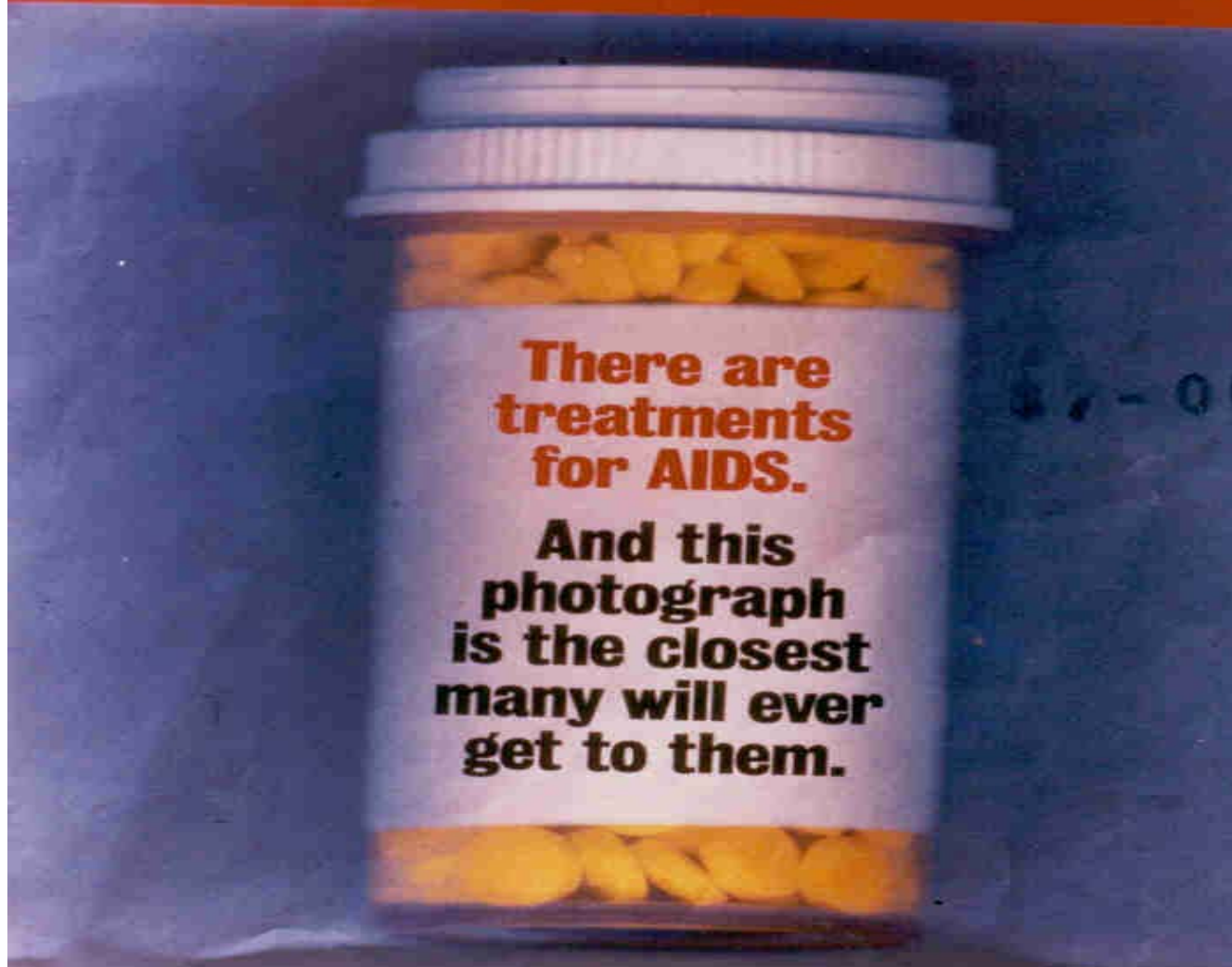
10,757 women and 4958 men nationwide

MOH, IHE, GHESKIO



Newsweek

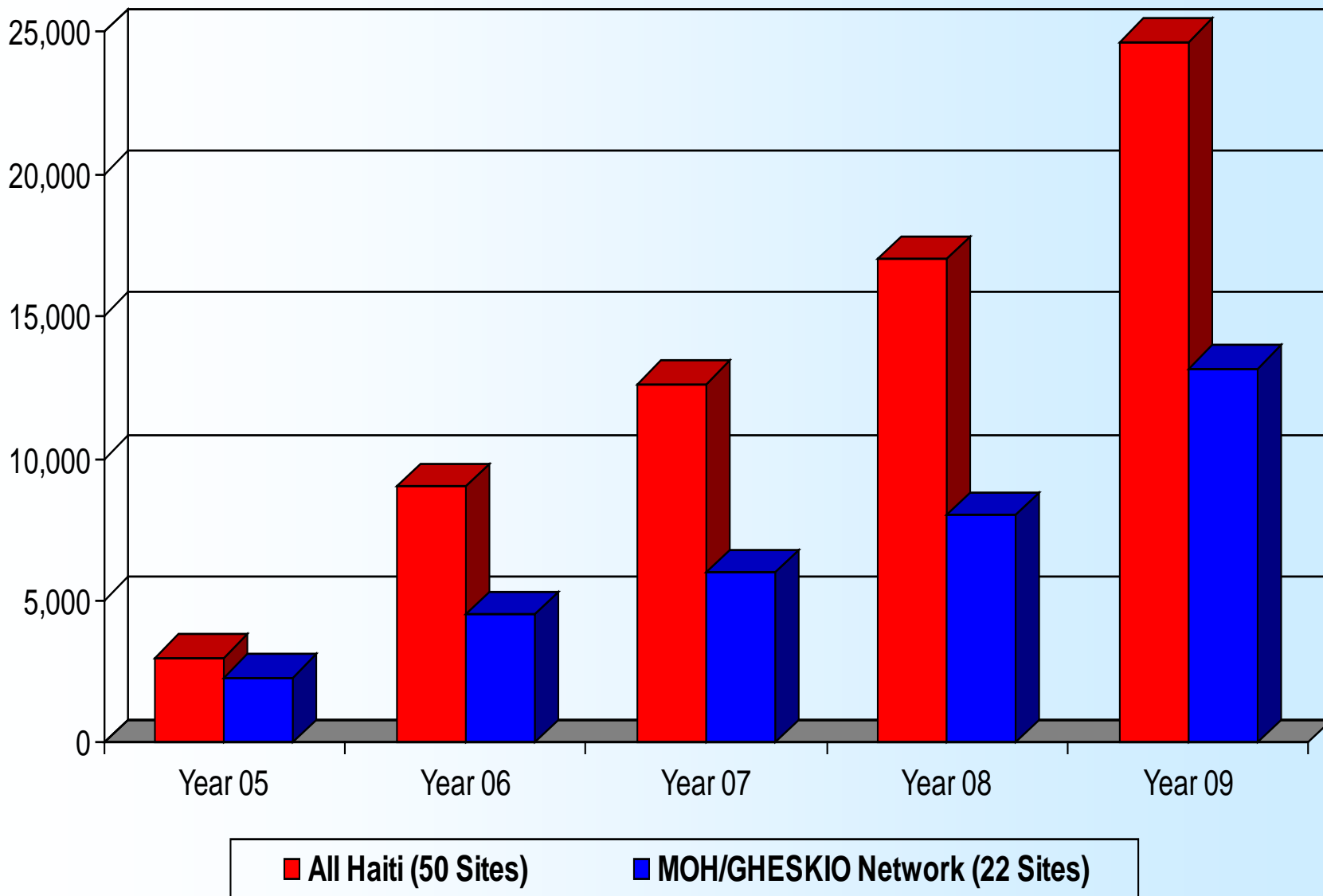
INTERNATIONAL NEWSMAGAZINE



Newsweek, 2000

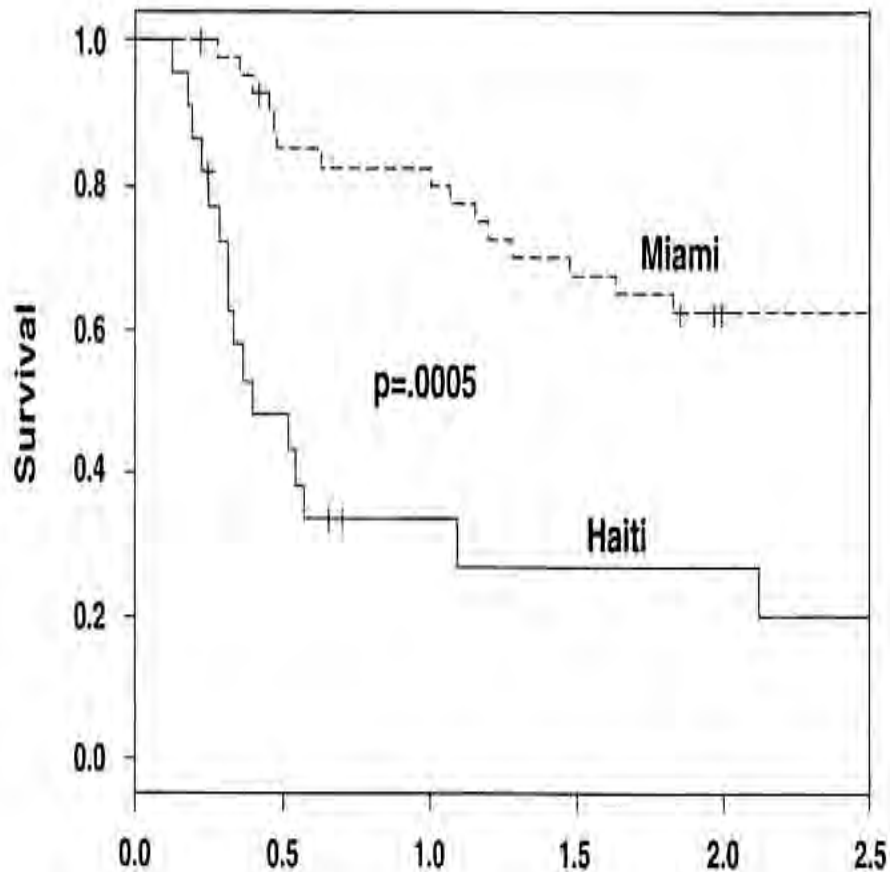


TOTAL Active on ART



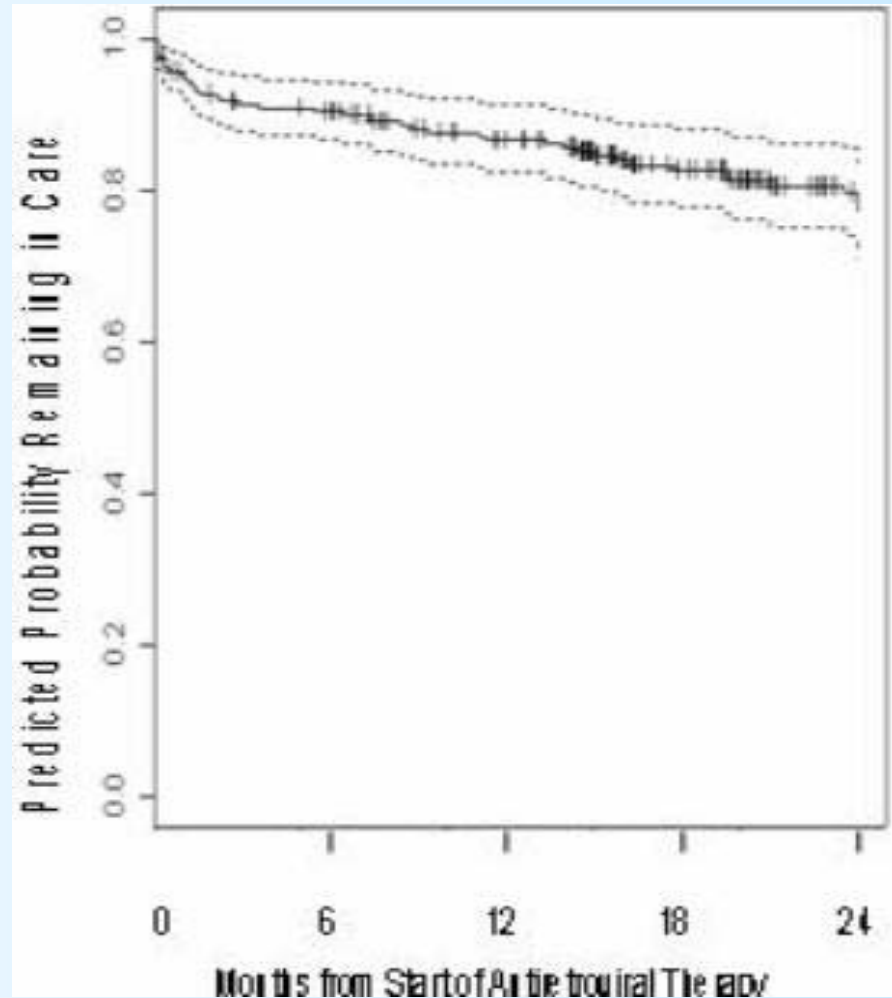
Outcomes of HIV+ Haitian Children

Without HAART



Jean, SS et al *Ped Infect Dis J* 1999, 18: 1; 58-63

With HAART



George E et al *JID* 2007

Without ART 80% deaths at 1 year ; with ART 80% survive at 2 years



Nutrition support for babies of HIV-infected mothers in late infancy

- Current global infant feeding and HIV discussion focused on birth to 6 months
- No focus on children at high risk of growth faltering and mortality in *late* infancy (6-12 months)
 - poor feeding practice/no breast milk → nutritionally inadequate diet
 - high risk of diarrhea and other infectious diseases
- GHESKIO–Cornell evaluation of new infant feeding support strategy for older infants
 - 82 mother-infant pairs enrolled in intervention
 - Control = infants seen at GHESKIO in previous year

R. Hedikamp, R. Sotlfus, D. Fitzgerald, WD Johnson, Pape JW from the Division Of Nutritional Sciences at Cornell University, The Global Health Center at Weill Cornell University, NY, and Les Centres GHESKIO , PAP, Haiti



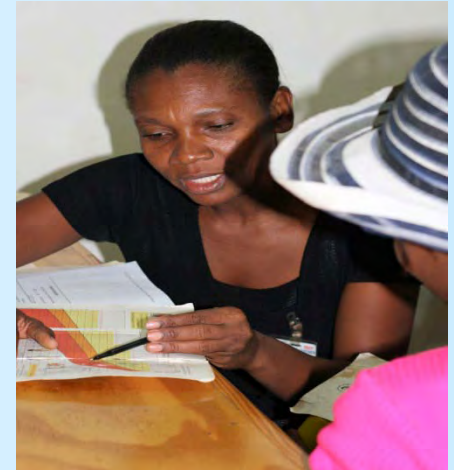
What was the intervention package?



Daily ration of locally-produced fortified energy dense ready to use food



Monthly Individual growth monitoring and counseling mothers on improved feeding practices: frequency of feeding/quality of food



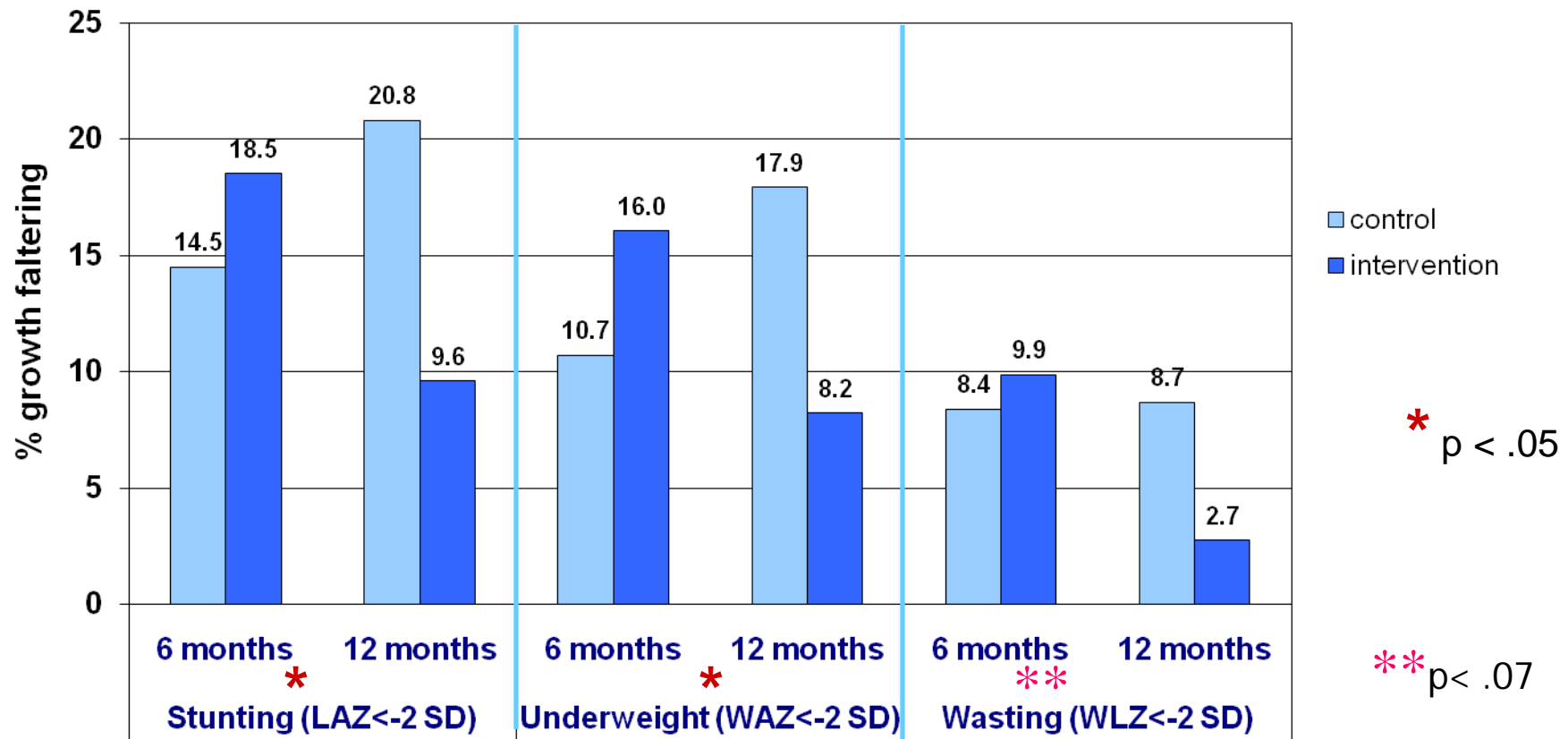
Caregiver Club for infant feeding / hygiene, prevention and treatment of diarrhea



Promote access to other services (ORS, chlorine solution, vaccines, vitamin A, household food ration,)



Prevalence of different types of growth faltering in intervention vs. control cross-sectional by age (WHO 2006 Growth Reference)



Reduction in stunting is impressive as stunting is not reversible after age 2 and is associated with many of the long term consequences of malnutrition.

Antiretroviral Therapy and Survival

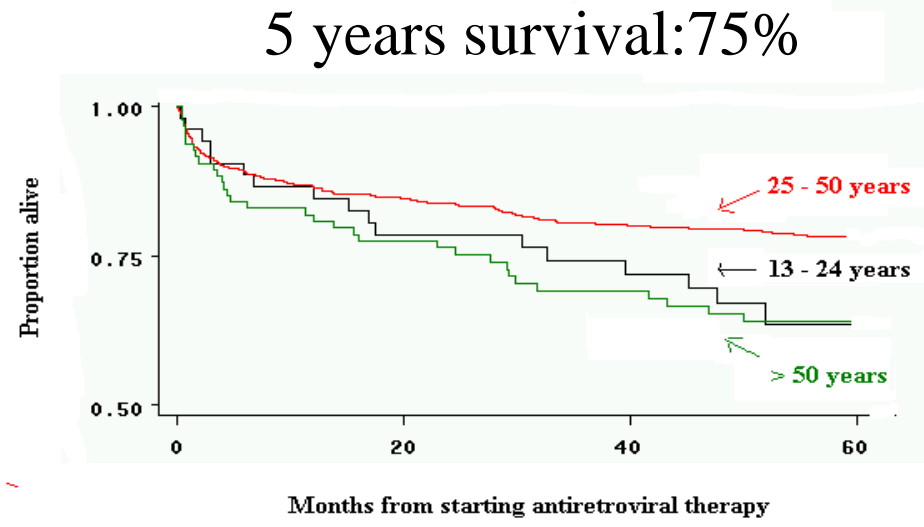
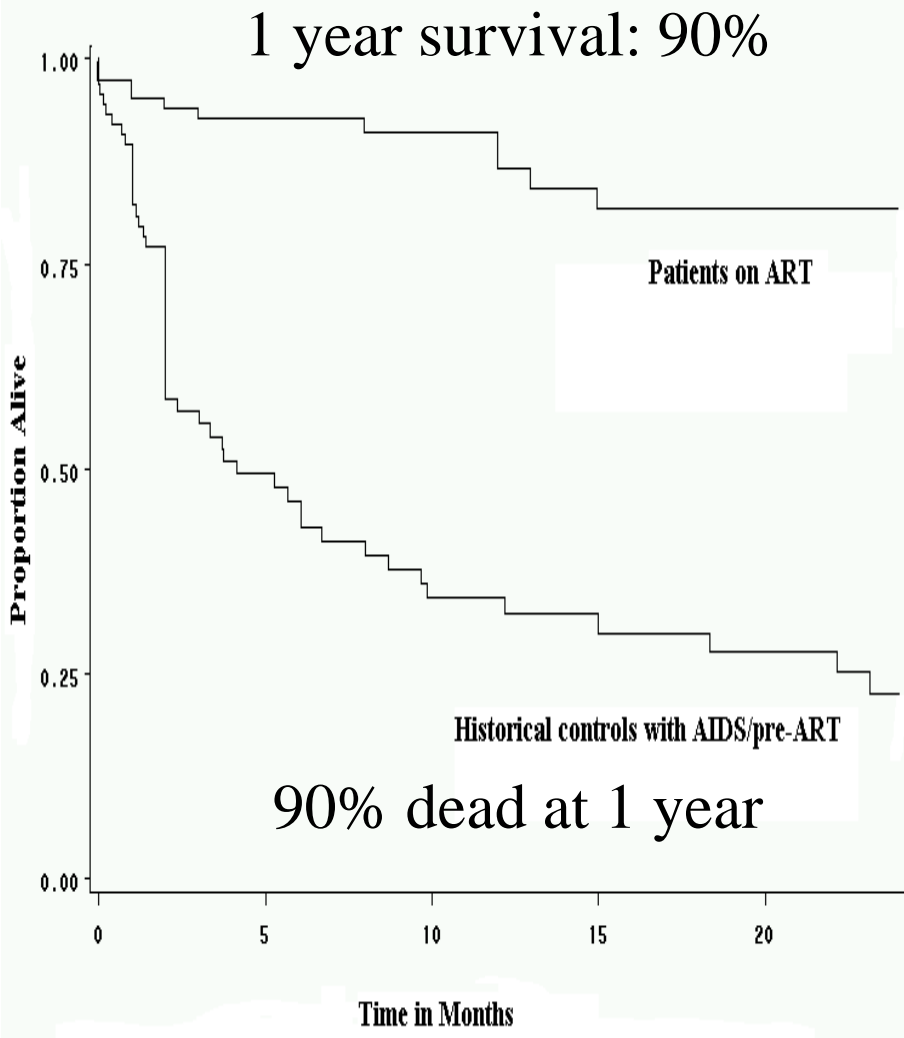
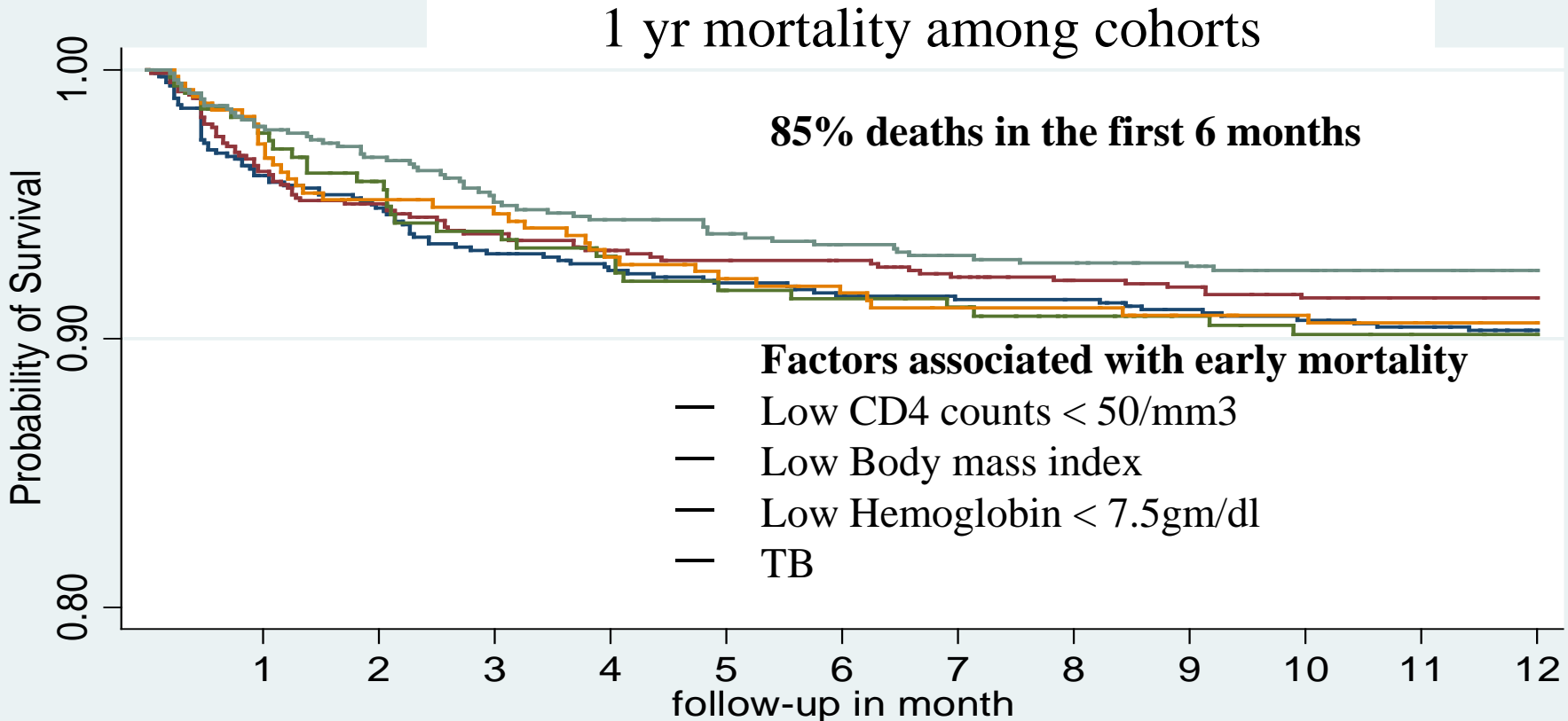


Figure: Kaplan Meier survival estimate of patients receiving antiretroviral therapy in Haiti stratified by age group, 13 – 24 years, 25 – 50 years, and > 50 years (log rank test, $p = .0045$).

Survival at 60 months
 13 – 24 years: 64% alive at five years
 25-50 years: 78% alive at five years
 > 50 years: 64% alive at 5 years.



One year mortality in 5 cohorts at GHESKIO



— Cohort 2 = 2003	— Cohort 2 = 2004
— Cohort 2 = 2005	— Cohort 2 = 2006
— Cohort 2 = 2007	



Outcomes of AIDS patients in Haiti according to timing of ART initiation

N = 816	Early CD4<350 (n=408)	Standard CD4<200 (n=408)	Hazards Ratio (p value)
Death	6	23	4.0 (.0011)
Incident Tuberculosis	18	36	2.0 (.0125)

Comparable in age, gender, CD4 at entry (282), body mass index
Median follow up: 21 months, range 1 – 44 months.

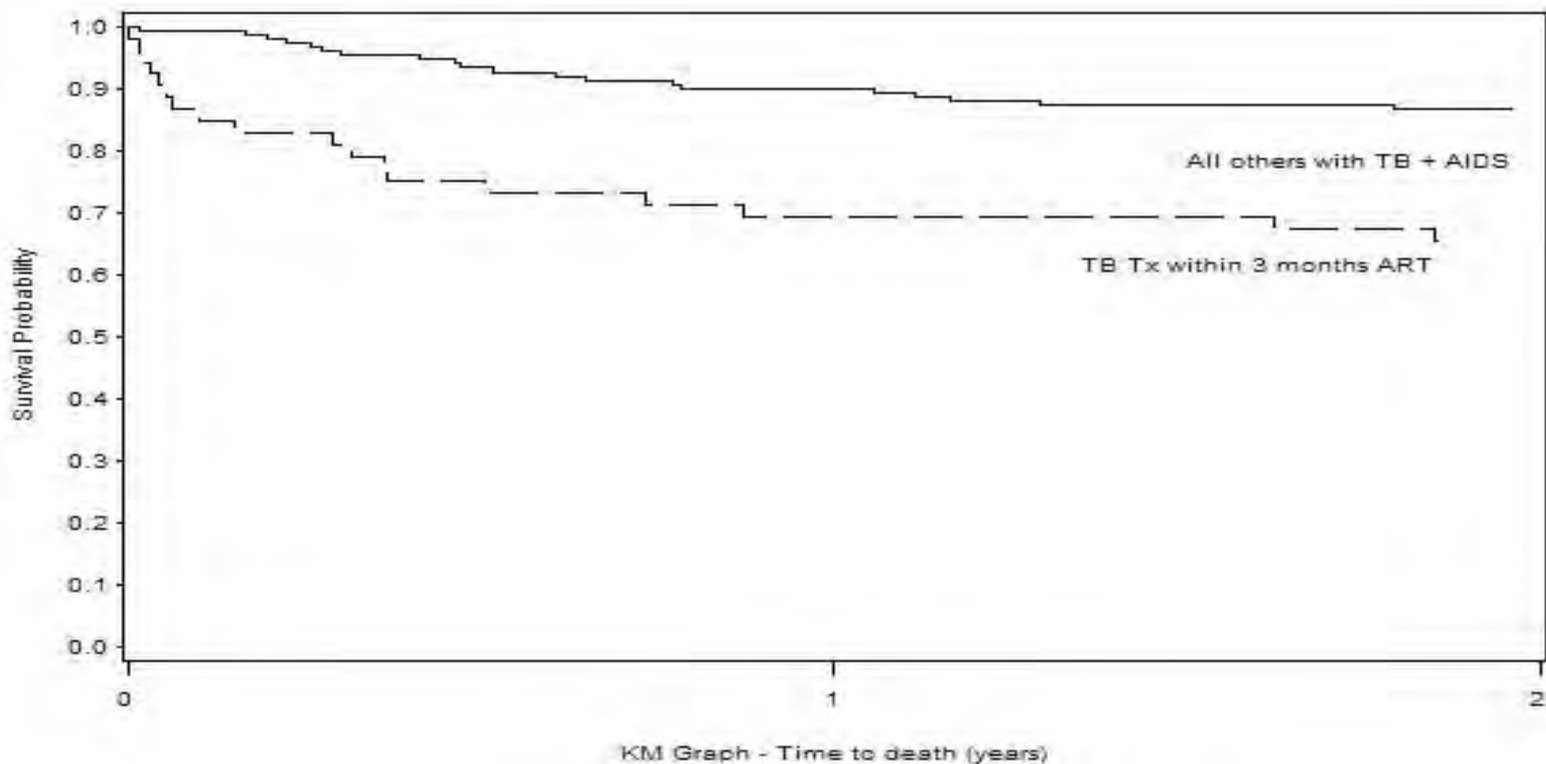
CIPRA study , NIH supported



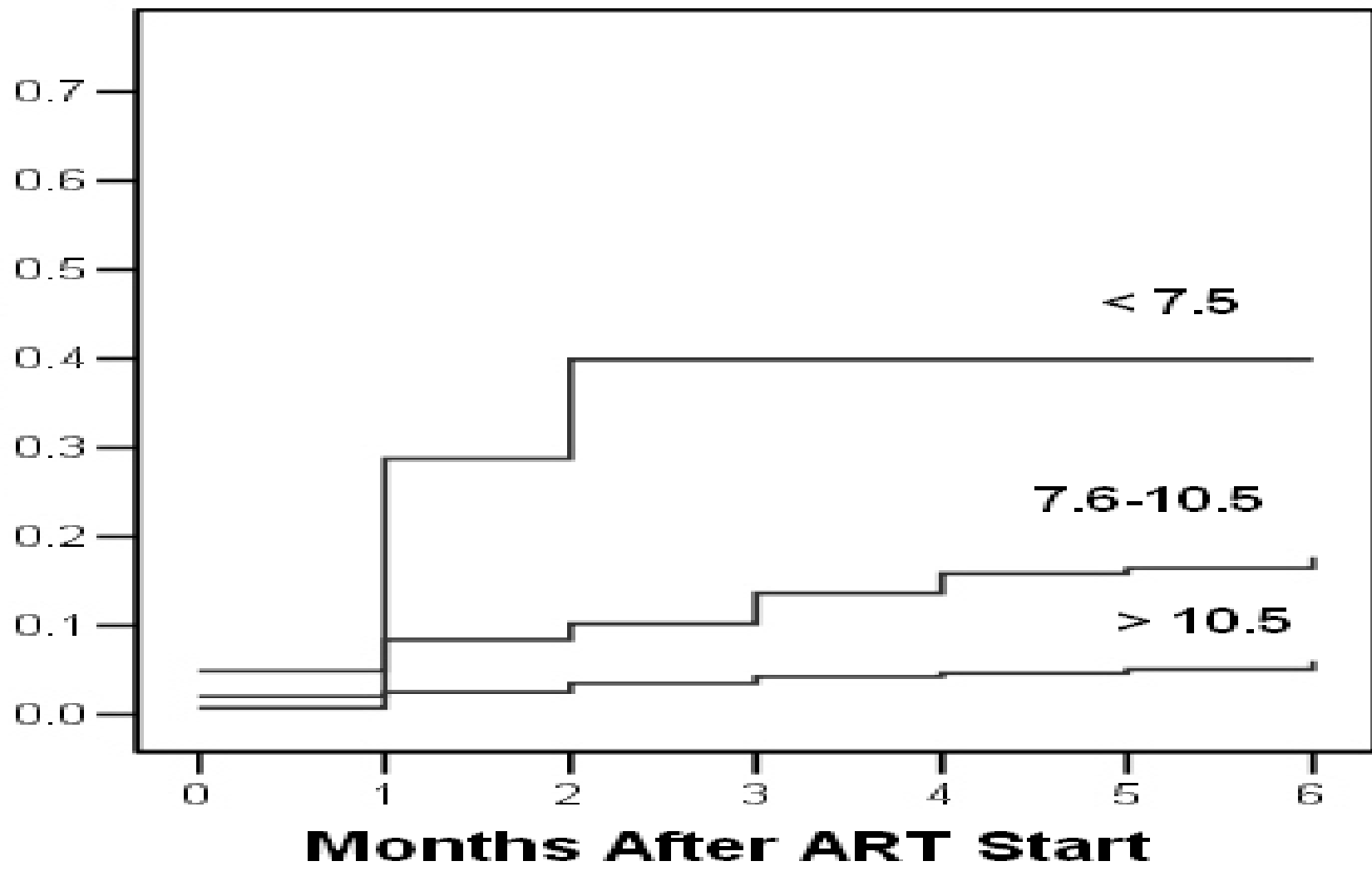
Survival of patients with AIDS and TB on anti-TB treatment and HAART according to timing of TB

Mortality (%)

- TB RX <3 months after HAART: 27%
- TB RX before HAART :10%
- TB RX > 3 months after HAART:2%



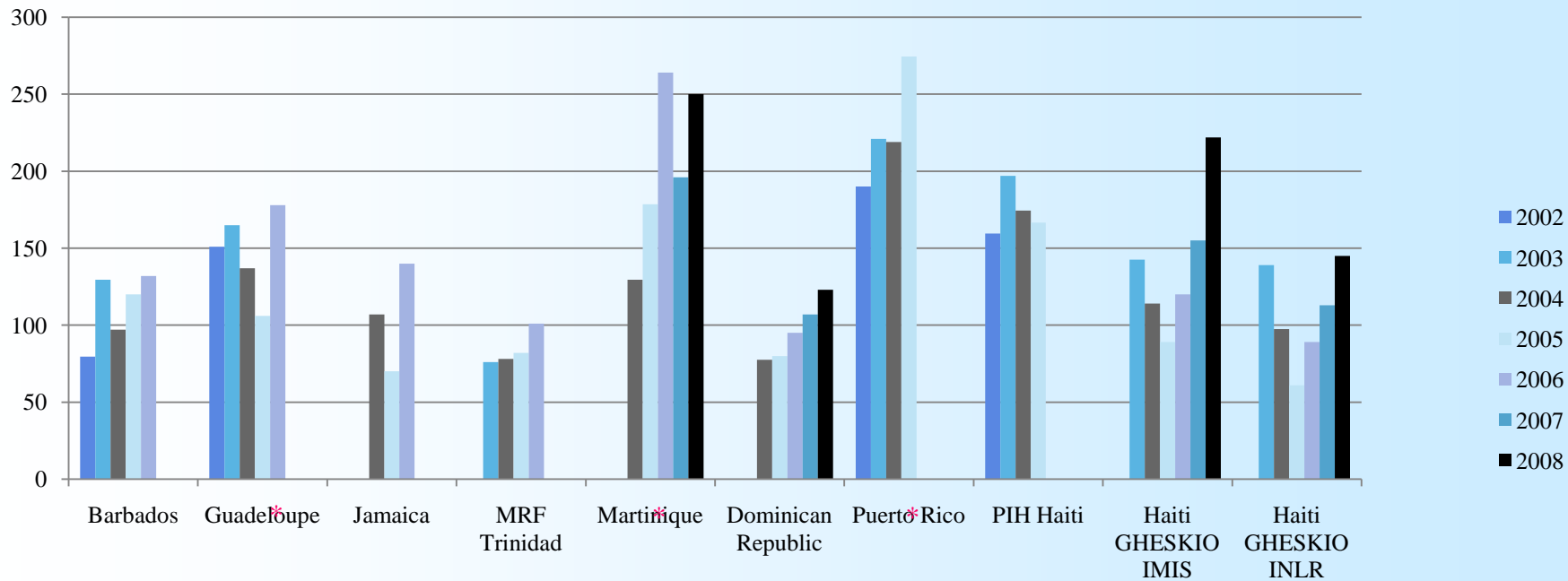
Kaplan Meier Estimates of Mortality after Starting ART Stratified by Hemoglobin Level



At 2 months 40% of patients with Hgb < 7.5/dl died.



Baseline CD4 at HAART Initiation in the TCHARI Network



* Guadeloupe, Martinique and Puerto-Rico start HAART at CD4 < 350/mm³

Data at study entry



PIH patient without and with ART

Food Insecurity in Haiti



In a garbage dump in Port-au-Prince, people recently scavenged for food

New York Times 4,18,2008



Level of Food Insecurity in same CIPRA population with AIDS

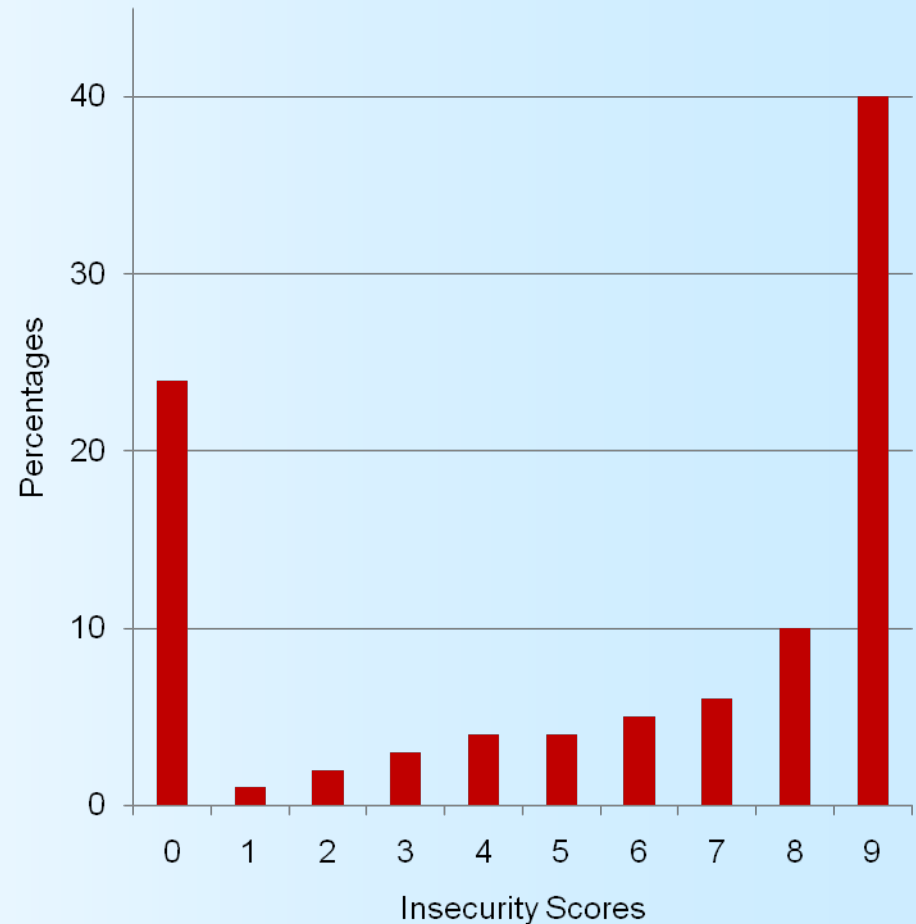
Food insecurity Questionnaire

1. Have you been worried about having enough food?
2. Have you not had food in the house?
3. Do you eat the same food every day because you do not have other food?
4. Have you had to give less food to yourself or another adult because there is not enough food in the house?
5. Have you missed a meal because you did not have enough food in the house?
6. Have you eaten less than you should because there is not enough food in the house?
7. Were you hungry and you could not find food in the house?
8. Have you or anyone in the house lost weight because you did not have enough food?
9. Have you or someone else gone a whole day without eating because there is not enough food?

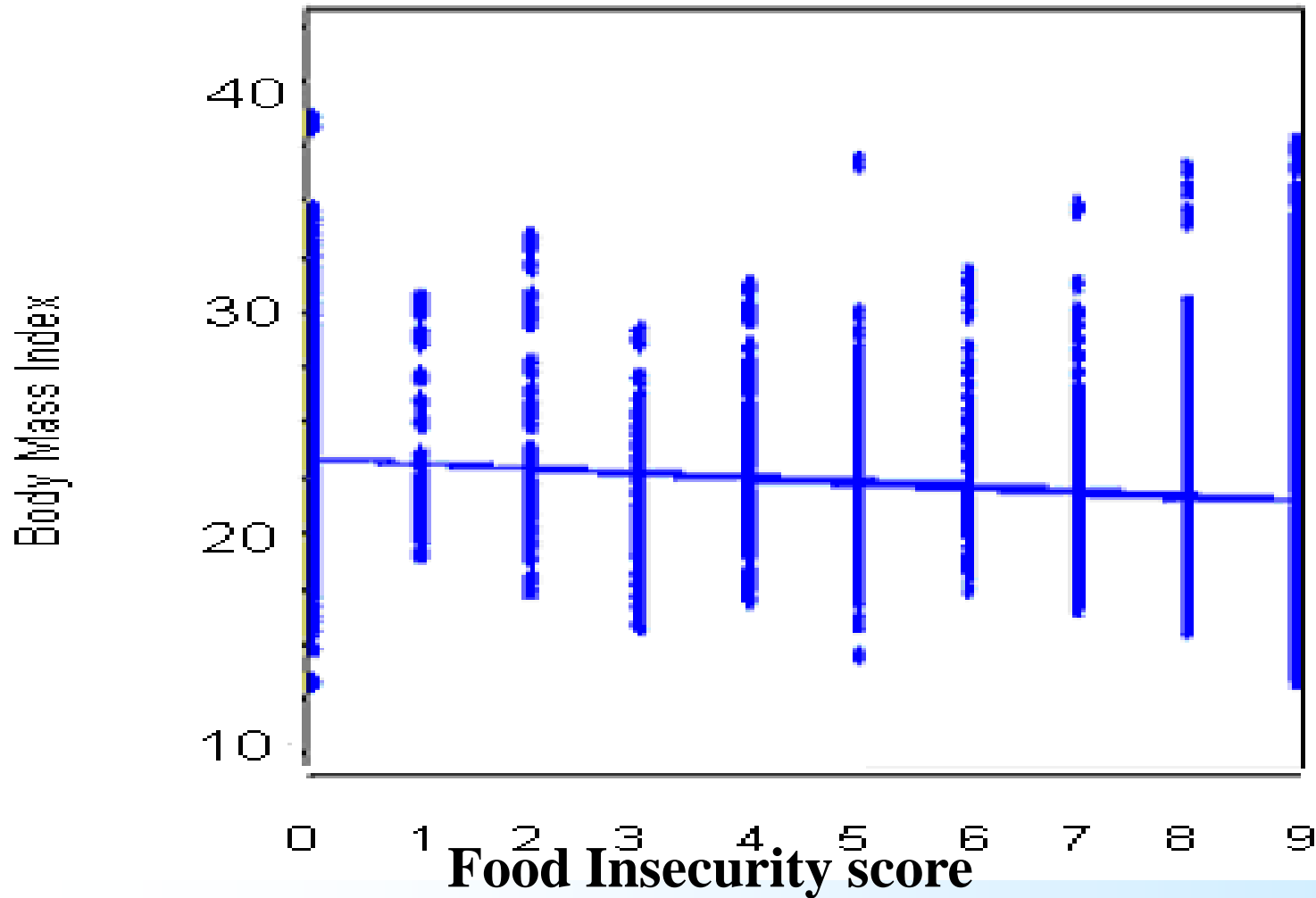
A “yes” to one of the above questions is 1 point on the food insecurity score

This questionnaire was adapted from questionnaire provided by the Division of International Nutrition, College of College of Human Ecology, Cornell University.

Percentages of AIDS patients with food Insecurity Scores in Haiti



Relationship of Body Mass Index and Food Insecurity Score with Deafault Loees Fit

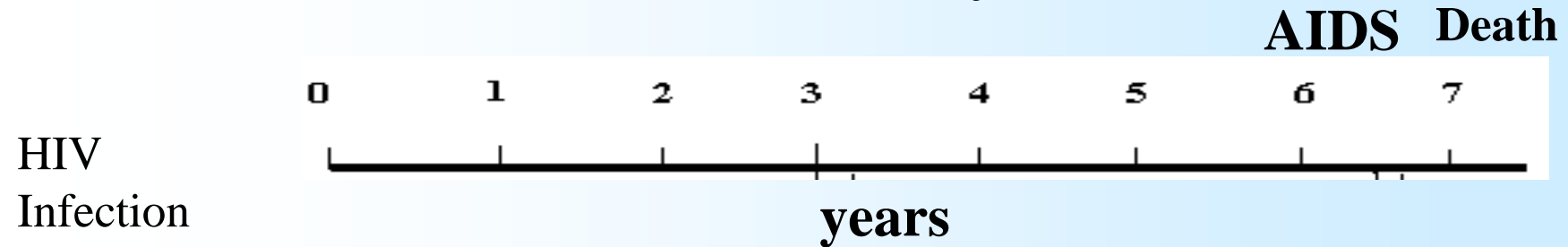


Same correlation between food insecurity and CD4 counts. CD4 counts decrease as food insecurity increases



Relationship of food insecurity and AIDS free survival

Natural History of HIV



Food insecurity score; 0 not insecure to 9 most insecure

Risk for developing AIDS or death is increased by 36% for patients with level 9 food insecurity when compared to those at level 0



Food insecurity and outcome in AIDS patients on ART in Haiti

- Major Findings: Food insecurity is associated:
 - With poorer nutritional status as shown by low BMI, low hemoglobin and
 - Is correlated with lower CD4 count
 - Low BMI, low hemoglobin, low CD4 are each independent predictors of mortality
 - Increases the risk of progression to AIDS or death
- Policy recommendations
 - Integrate comprehensive nutritional and food supplementation services into HIV/AIDS treatment programs in order to improve disease outcomes



How Can mortality be further reduced in HIV+ patients on ART?

- Starting ART early
- Seeking aggressively HIV+ patients in need of ART
- TB interventions: early diagnosis, treatment and prophylaxis
- Nutrition issues:
 - Nutrition intervention effective in late infancy to prevent stunting
 - Nutrition support essential for patients on ART
 - Necessary to have a broader approach to care by addressing food insecurity to combat and prevent malnutrition in patients with HIV/AIDS but also for those affected by other world killers such as tuberculosis, particularly MDRTB: need to provide nutritional supplementation, educational, agricultural, economic, and social support

