



Health Clinics: Saving Two Birds with One Stone

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Problem Statement

The amount of cases of malnutrition and HIV/AIDS in Nigeria must be reduced.

Project Goals/Objectives

- Reduce the number of children affected by malnutrition.
- Reduce the number of those infected with HIV/AIDS.
- Attain sustainability in the surrounding area.

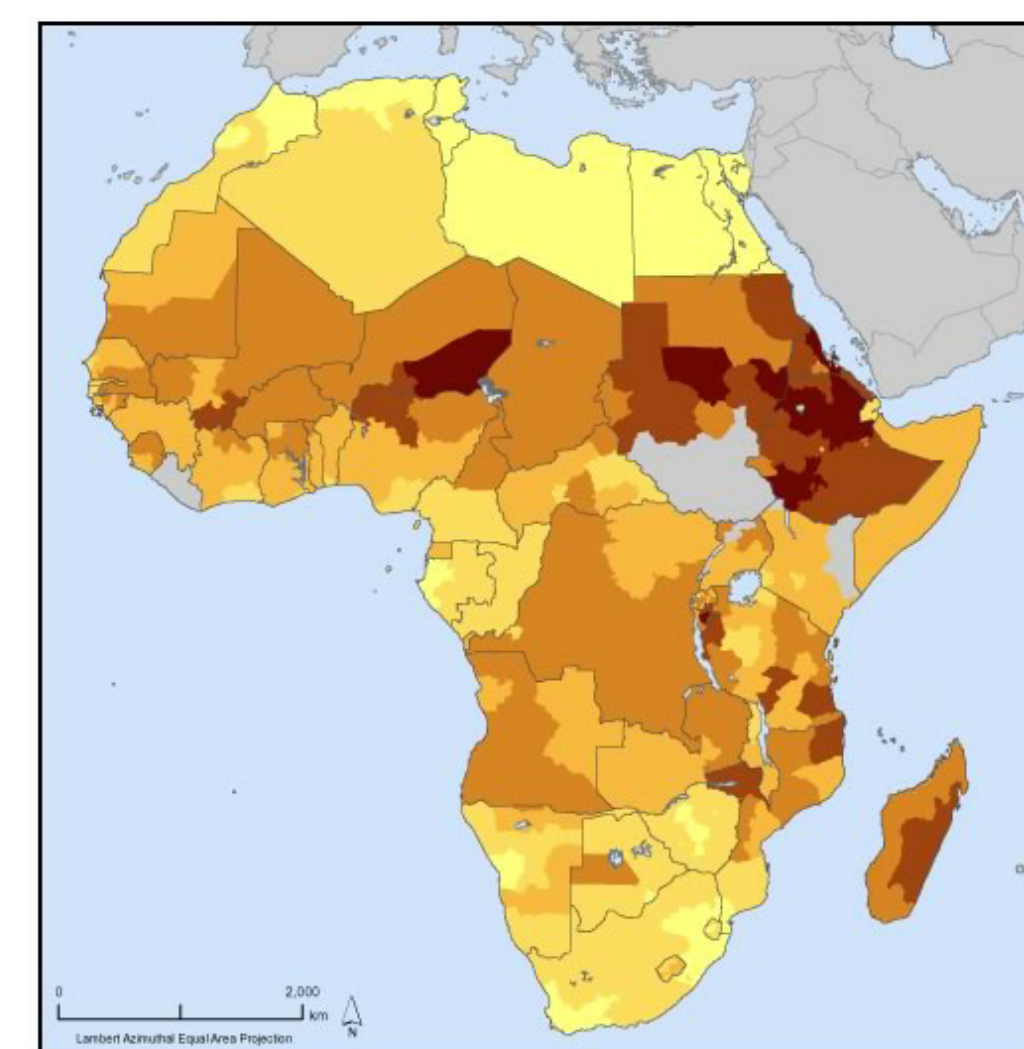
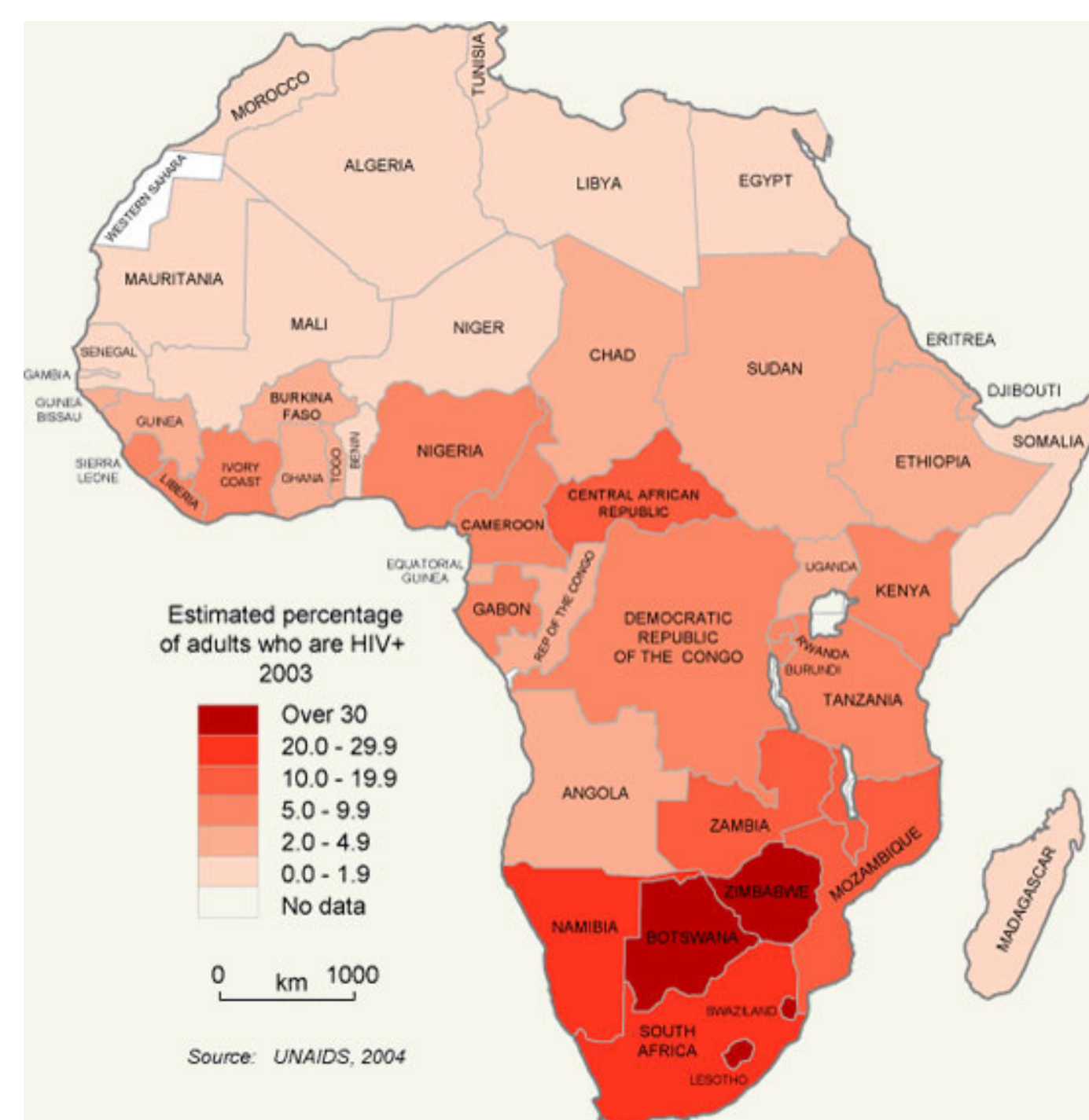
Location

Abia State, Nigeria



Reason for Location:

Nigeria has moderate cases of both malnutrition and HIV/AIDS. Specifically, the villages in the South (Abia State) have serious malnutrition and AIDS issues.



http://highschool.caminonuevo.org/Student_Website/Monzerrath_Leon/10thFiles/web%20page_files/afriacmap.jpg

http://sdc.columbia.edu/download/maps/poverty/Global_Poverty_Map_-_Project_Child_Malnutrition_Africa.jpg

These maps show the percentages of AIDS and malnutrition in Africa, respectively.

Approach

Develop a health clinic that reduces the rates of HIV/AIDS and malnutrition through education, testing, and treatments.

Malnutrition

- Implement aspects of the Community based Therapeutic Care program into the health clinic
- Focus on treating children under 3
- Check for cases of severe acute malnutrition in local villages weekly
- Supply local villages with Plumpy Nut on a weekly basis
- Treat cases of moderate acute malnutrition as outpatients.
- Treat cases of severe acute malnutrition within the clinic with Plumpy Nut
- Keep outpatient and inpatient records



A child enjoying Plumpy Nut

HIV/AIDS

- Provide HIV/AIDS education
- Provide HIV testing
- Treat patients with antiretrovirals
- Provide latex condoms
- Treat patients malnourished from HIV/AIDS with Plumpy Nut
- Encourage HIV testing in infants
- Keep patient records

Funding and Costs

Malnutrition: Valid International, and Concern Worldwide will provide supply of their product and help cover medical costs.

Previous AIDS Funding:

- World Bank – 2002 \$90.3 million given to Nigerian government for HIV/AIDS. 2007 additional \$50 million was loaned.
- PEPFAR – 2008 \$448 million for HIV/AIDS treatment in Nigeria
- Global Fund - \$98 million for HIV/AIDS for expansion of treatment

Personnel

- The health clinic will be a nonprofit organization employed by trained local volunteers and a reduced medical staff.
- The cultural barrier will be reduced because the health clinic will employ local volunteers.

Results/Outcomes

- Through the success of the health clinic, new possibilities will be opened.
- The program can expand its coverage of Plumpy Nut to more villages with delocalized feeding centers.
- The coverage of HIV testing can then, in turn, be expanded.
- We predict that decreased mortality in children will lead to more sustainable villages and thus, decreased malnutrition.
- A successful model for a health clinic that can be duplicated in other regions would be the ultimate success story for our project.

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Malnutrition:

- Fewer T lymphocytes
- Impaired lymphocytes response and phagocytosis
- Leads to severe chronic diseases, decreases nutrient absorption, and increases metabolic needs
- Lack of vitamins and minerals can lead to hair or nail changes or to more significant problems such as developmental delay or mental retardation



- Malnourished women have high risk of giving birth to underweight infants that may lead to growth failure that increases risk of early death

http://2.bp.blogspot.com/_GCCw1650bda/Sy0_UjTRBtI/AAAAAAAAAQA/AbC6z3GKAs/400malnu4r3on.jpg

Plumpy Nut:

- Promotes faster recovery than other Ready to Use Therapeutic Foods
- Plumpy Nut is made from peanuts, milk powder sugar, oil and a mineral/vitamin mix
- It can be made easily using low tech production methods
- The milk powder and peanuts can be removed with the addition of locally-available grains and legumes
- Plumpy Nut is cheaper than milk formula and is safer to use in areas where uncontaminated water is rare
- It helps children whose mothers cannot produce enough milk for all their children



http://yourwheatbread.blogspot.com/2008/10/01_archive.html
 Before and After Shots using Plumpy Nut

Past Methods for Treating Malnutrition:

- Treated with Therapeutic Feeding Centers and Community-based Care
- More practical, cost effective, greater coverage
- Hires more local volunteers than the TFC
- Uses simplified equipment for determining severity of malnutrition in children
- Less severe cases are treated as out patients



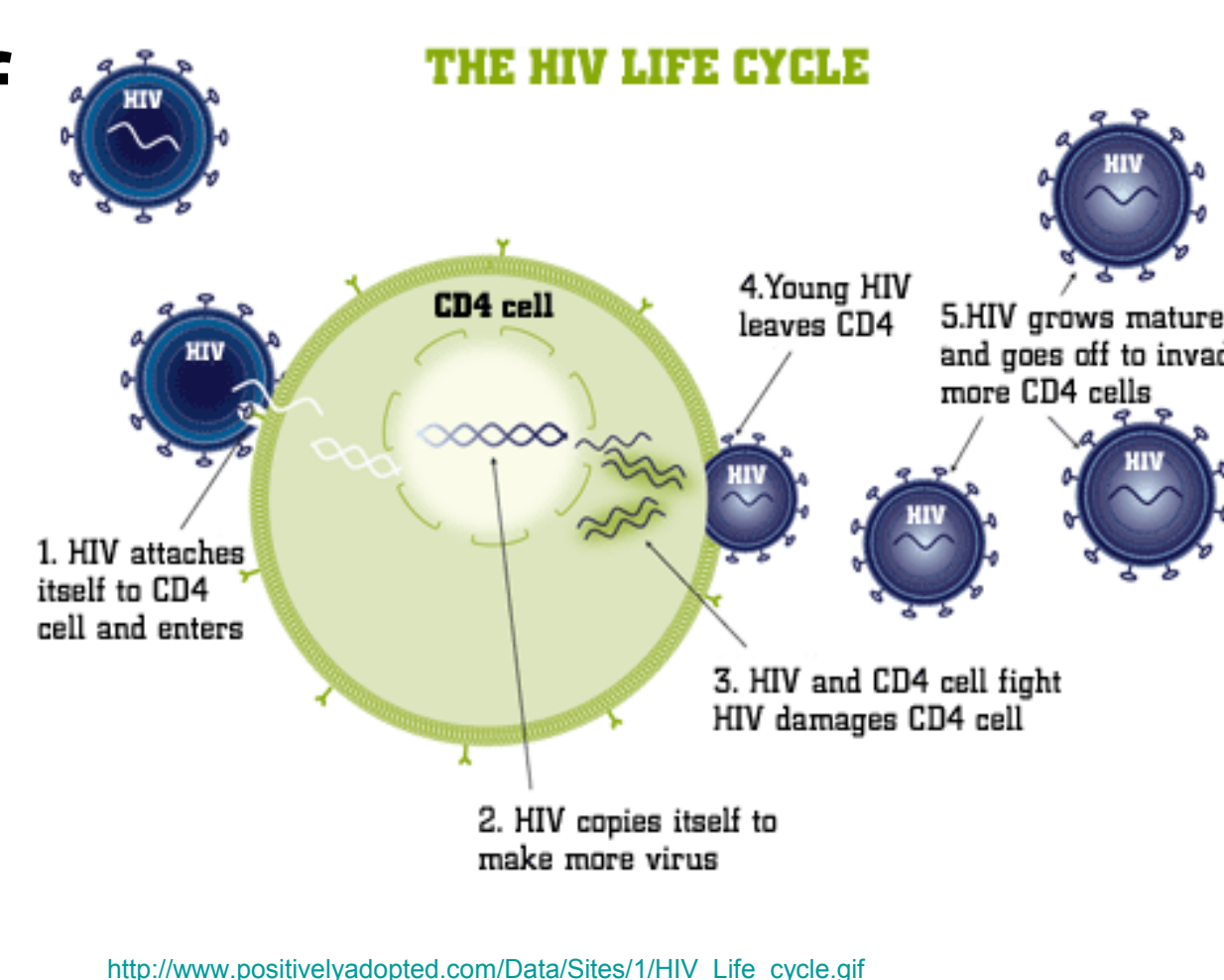
http://africaproject2020.com/wp-content/uploads/2008/11/child_with_kwashiorkor.jpg



http://topnews.us/sites/default/files/Child_malnutrition.jpg

HIV/AIDS:

- HIV interferes with the body's ability to fight off viruses, bacteria, and fungi that cause disease makes you more susceptible to certain types of cancers and infections
- Virus multiplies in lymph nodes and slowly begins to destroy helper T cells (white blood cells that coordinate the immune system)
- Causes acute and chronic malnutrition both directly through infection and indirectly through increasing poverty and vulnerability
- Research in 2000 in Malawi showed that 35% of severely malnourished children were HIV positive



Antiretrovirals:

- Antiretrovirals are drugs for treatment of retroviruses, especially HIV
- Consists of different types of drugs
- Creates obstacles to HIV mutation by keeping offspring low and preventing mutation
- Offered to asymptomatic patients and patients with history of AIDS-defining illness or severe symptoms of HIV

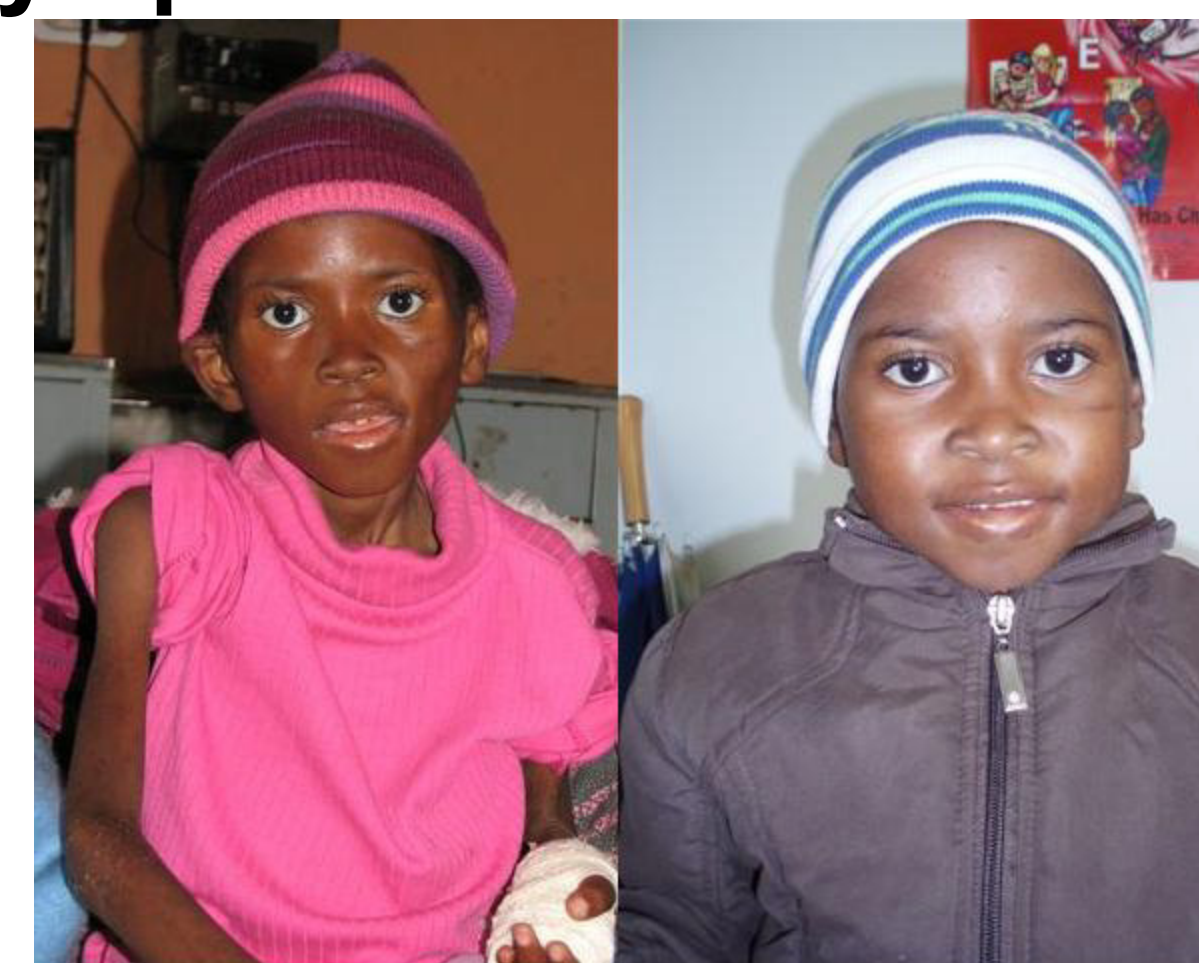


Photo on the left was before she started ART, photo on the right was taken six months after she was put on antiretroviral treatment



4,300 people die from AIDS each day

http://aap.pnhclients.com/images/uploads/about/history/access1_003.jpg

Past Methods for Treating HIV/AIDS:

- Intensive HIV prevention campaigns reduced the number of pregnant women infected by HIV from 30% in the 90s to 10% in 2001
- Increase in supply of condoms: 4.6 supplied per man in 2001 to 10 supplied per man in 2004

Voluntary HIV Counseling and Testing:

- Those who test positive are less likely to transmit
- Those who test negative, awareness increases
- Cheaper and more effective since introduction of rapid HIV testing

Mother to child transmission:

- Without intervention – 20-45% chance of MTCT
- If mother given ARVs, risk significantly reduced
- Mother must be aware, testing plays vital role
- Helped to virtually eliminate MTCT in developed countries