

College of Public Health and Health Professions: Initiatives in Haiti



Before the Quake



FISH Ministries Farm, Christianville, Gressier, Haiti



Academie Chretienne de Macombre



Haiti: After the Quake











Response to the Quake

















A Better Tomorrow for Haiti
“Demen Miyò Pou Âyiti”



Mission

Using a school-centered, community-based approach, integrate public health, agricultural, and economic best practices with faith-based education to develop individuals with high ethical and moral character to lead Haiti to successful self-sustaining economic development.



Major Objectives

1. Assist in the earthquake relief efforts
2. Facilitate the rebuilding of local schools
3. Initiate a post-quake vaccination program
4. Establish a school-based Family Wellness Center
5. Conduct a community-wide public health needs assessment
6. Establish an Infectious Disease Field Laboratory
7. Institute a “train-the trainer” program for community-based health promotion
8. Enhance the existing agricultural infrastructure for school-based nutrition programs
9. Establish vocational training programs
10. Employ microfinance strategies to encourage agricultural entrepreneurship



Starting Over



School sessions in tents
donated by Samaritan's Purse



Rebuilding

















PUBLIC HEALTH

Specific Aim 1: Initiate a vaccination program for school-age children and their families and establish a school-based Family Wellness Center



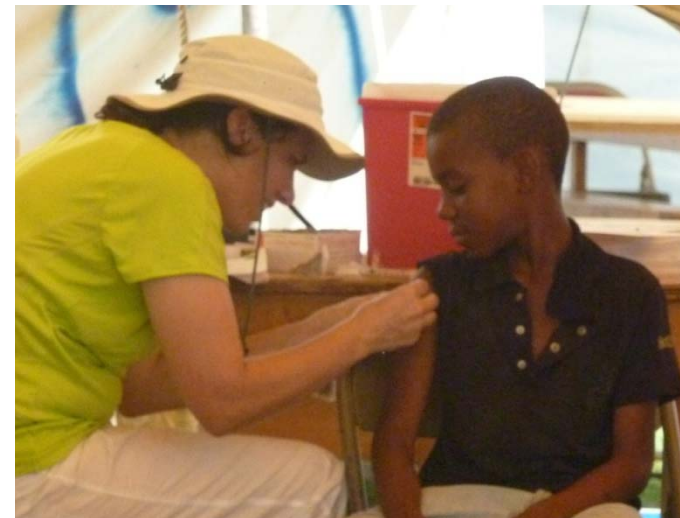
Problem:

- According to WHO, vaccination rates in Haiti for measles and tetanus-diphtheria were low, 53% and 58% respectively.
- Inadequate public health infrastructure makes the Haitian people more susceptible to poor health outcomes.
- Overcrowded living conditions of people displaced by the earthquake increase the risk of transmission of diseases spread by respiratory droplets, such as measles and diphtheria.
- Spores that cause tetanus are present in the soil and can easily infect even minor wounds. The large number of wounds, and the seriousness of many of them, increase the risk for tetanus infection.

Action: Obtain vaccines for the children and families in the Macombre Schools and administer those vaccines as quickly as possible.

Expected Outcome: Prevention of outbreaks of these vaccine-preventable diseases

Vaccination and Family Wellness Program



Vaccination and Family Wellness Program



Vaccination and Family Wellness Program



Vaccination and Health Assessment Program Summary

- The program was conducted June 2010
- Clinic was held in tents at the Academie Chretienne de Macombre
- 624 individuals, representing 478 families attended the clinic
- The ages of the participants ranged from 8 days to 95 years old
- Participants were interviewed in Creole and health histories were recorded by trained staff
- Participants received a brief physical exam
- Children and mothers were provided with a 30-day supply of multivitamins
- Pregnant women received a 30-90 supply of prenatal vitamins



Vaccination Program Summary

Vaccines administered	No.
Tetanus Diphtheria	60
Tetanus Diphtheria and Pertussis	243
Total	303
Vaccine not administered	
Under age 8 (no vaccine available)	205
Other reason for not receiving vaccine (e.g., immunized within past 6 months, sick, or refused)	116
Total	321
Grand Total	624

Community Health Assessment Summary

Living Conditions	Percent respondents
Living in a tent	78%
Purchasing food from market	90%
Water from public pump	78%
No shoes	61%
No change of clothes	43%
No mosquito net	86%
No compensated work	76%

Nutrition

Specific Aim 2: Enhance and expand the school-based nutrition program



Problem:

- Malnutrition is the leading cause of death in children; 10% mortality prior age 5
- One third of 1 year olds show signs of severe growth retardation, forty percent of all 5 year olds have stunted growth and brain development
- Malnutrition contributes to 60% of all deaths in children
- Malnutrition helps perpetuate poverty; malnourished children are more likely to drop out of school, are less likely to benefit from schooling, and have lower incomes as adults.

Action

- Produce and augment diets with animal protein

Expected Outcomes

- Lower child mortality rates, improved health and cognitive abilities
- Improved family and community economics

School Nutrition Program



PUBLIC HEALTH

Specific Aim 3: Establish a Public Health Infectious Disease Field Laboratory

Problem:

Haiti has an array of endemic infectious diseases but diagnostic capabilities are even more sparse than before the earthquake

Actions:

Commission surveillance and research studies run by Haitians and University of Florida faculty and students, leveraging existing UF infectious disease assets.

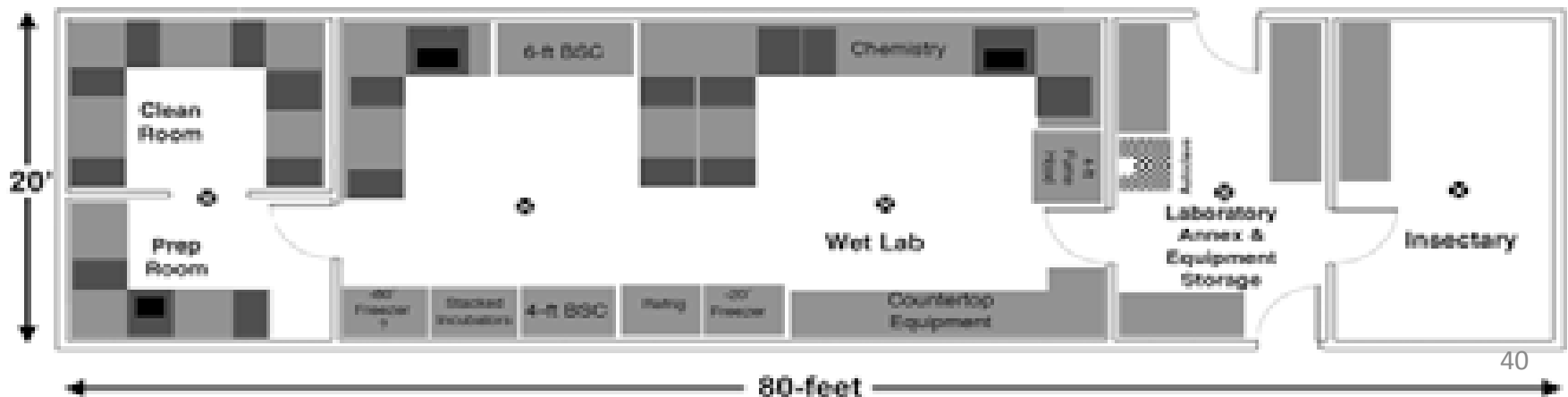
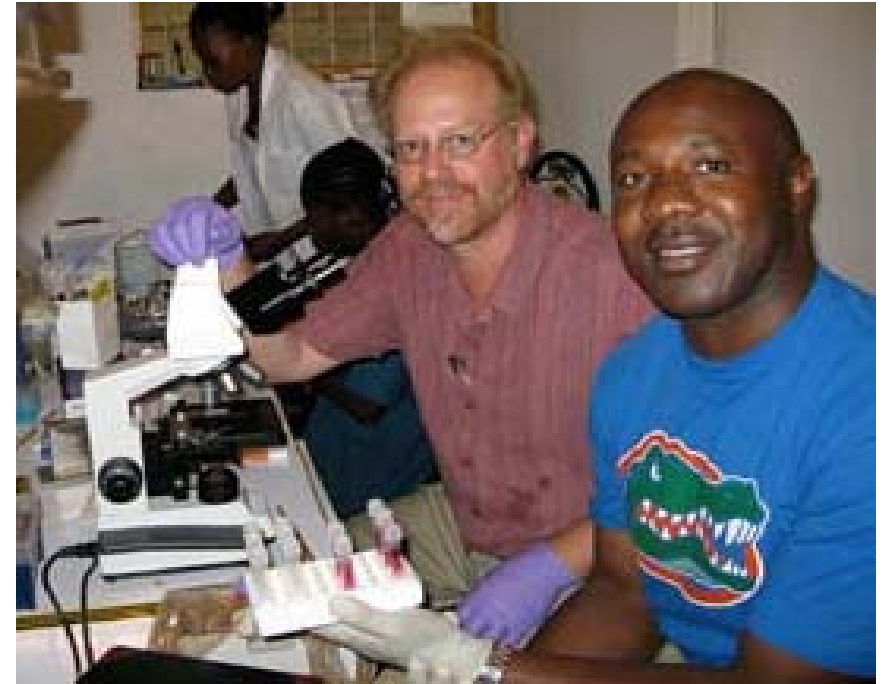
Outcomes:

Answer important questions like these:

1. Are Haiti's malaria strains resistant to commonly used prophylactic medications?
2. What is the nature of the pathogens causing outbreaks of diarrhea and cholera?
3. What public health interventions are likely to reduce the infectious disease morbidity?



Construction of the Infectious Disease Field Lab



University of Florida Public Health Laboratory Gressier, Haiti



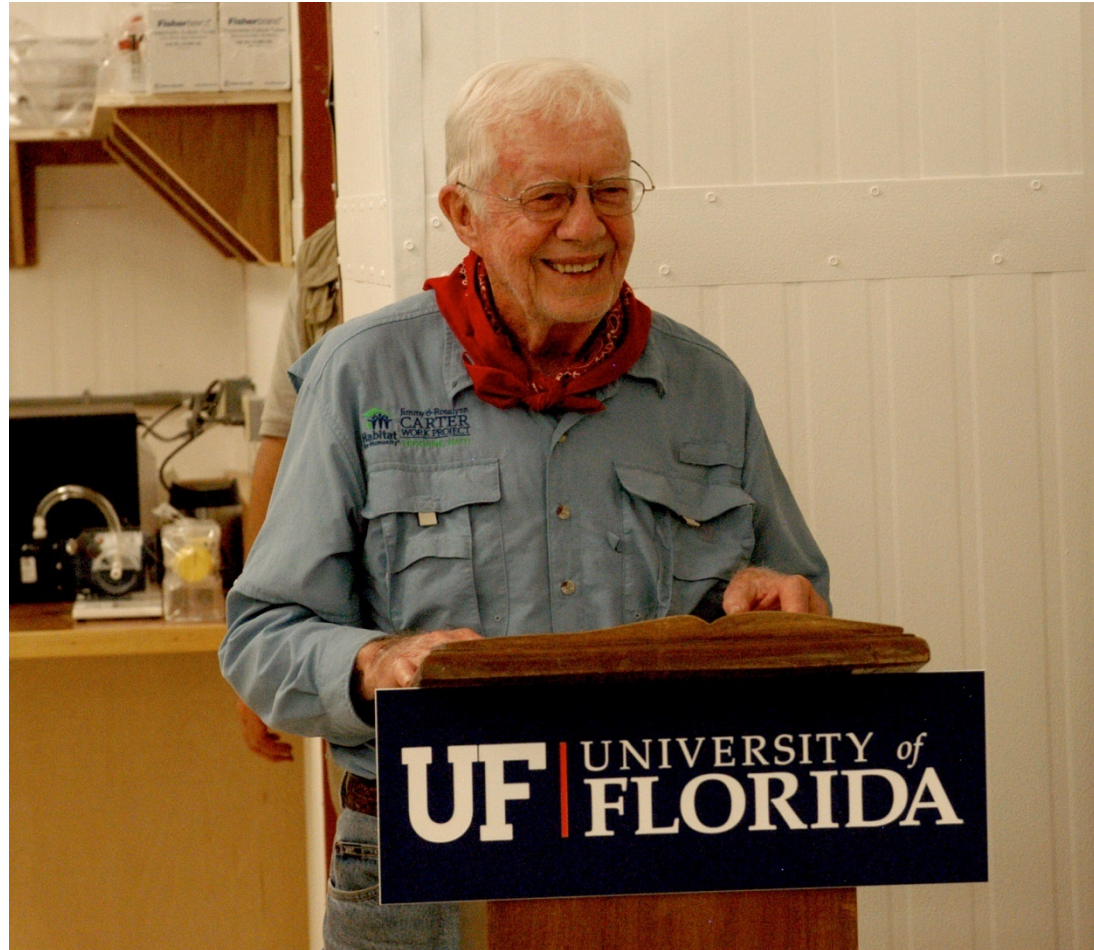
President Carter is welcomed by Dean Perri.



President and Mrs. Carter and Dean Perri



President Carter



Dr. Bernard Okech describes his research on malaria.
Ms. Florence Sergile from IFAS translates.



Dr. Afsar Ali presents his work on cholera.



Dr. Andy Kane discusses his work on water quality.



First row: Dr. Jacques Boncy and Dr. Alexandre Existe from Haiti's Ministry of Public Health. Second row: Dr. Gladys Memnon, the Director of Hospital St. Croix, Haiti



Pastor Obinson Joseph,
Director of Christian Academy Macombre



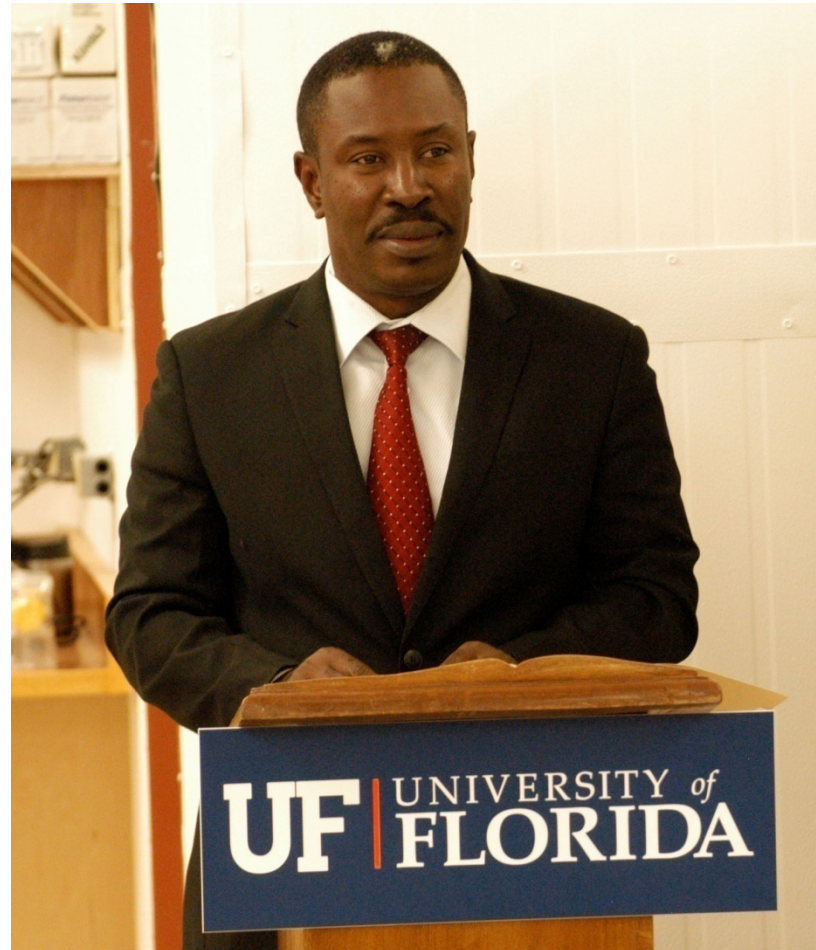
John O'Kelly of World Relief discusses collaboration with Edsel Redden of UF



Jim Liberatore
President of the Christianville Foundation



Jean Roland Oscar
Parliamentary Deputy



Captain Kevin Russell, M.D., Director of the US Armed Forces Health Surveillance Center



Dr. John Ho of the CDC's Haiti Office and Dr. Glenn Morris of the Emerging Pathogens Institute



Dr. Mary Peoples-Sheps (left) describes collaborative efforts for collaborative community needs assessment and intervention.



**Emerging Infectious Diseases • www.cdc.gov/eid • Vol. 17, No. 4,
April 2011**

Recent Clonal Origin of Cholera in Haiti

Afsar Ali, Yuansha Chen, Judith A. Johnson, Edsel Redden, Yfto Mayette, Mohammed H. Rashid, O. Colin Stine, and J. Glenn Morris, Jr

Altered El Tor *Vibrio cholerae* O1, with classical cholera toxin B gene, was isolated from 16 patients with severe diarrhea at St. Mark's Hospital, Arbonite, Haiti, <3 weeks after onset of the current cholera epidemic. Variable-number tandem-repeat typing of 187 isolates showed minimal diversity, consistent with a point source for the epidemic.

Sanitation and Hygiene Promotion





PUBLIC HEALTH

Specific Aim 4: Initiate hygiene promotion programs to improve sanitary practices



Problem:

- Sanitary and hygienic practices among the population were poor before the earthquake. Practices included drinking water from streams in which people bathe, wash clothing, and eliminate waste, and drinking from receptacles that were not properly cleaned between uses.
- The earthquake contributed to more contaminants in stream water, and a dangerous lack of materials for normal cleaning of food and water receptacles. Water-borne diseases, such as typhoid fever, polio, hepatitis A, and hepatitis E are present in Haiti and have epidemic potential. Mortality among children < 5 yr is high, with diarrhea contributing 16% to the death rate.

Actions:

- Train community health workers to provide health education to adults in the community
- Train teachers to provide health education to school-age children
- Provide materials, in Creole, to reinforce the educational efforts for both age groups
- Provide dishwashing and personal hygiene supplies for the population

Expected Outcome:

- Reduce the incidence of diarrhea due to water-borne diseases and prevent outbreaks of cholera, typhoid and hepatitis.

VOCATIONAL TRAINING

Specific Aim: Establish vocational training programs for children and for adults



Problem:

- Nearly two-thirds of all Haitians earn their livelihood from subsistence agriculture, in which methods are primitive and crop yields are small.
- These conditions have led to an agrarian-based society unable to meet the essential food needs of their local community and produce surplus for a market economy.
- Currently, Haiti only produces enough food to fill the needs of 55 percent of its population, Haiti imports some \$400 million in food each year to fill the gap.

Action:

- Develop specific training for farmers and entrepreneurs and establish feasibility demonstration projects;
- Create a youth program to develop the future farmers of Haiti to assure the sustainability of highly productive rural agriculture infrastructure.

Expected Outcome:

- Long-term, improved crop yields leading to new microenterprise and employment opportunities and improved nutrition and health

Vocational Training and Economic Development



ECONOMIC DEVELOPMENT

Specific Aim: Provide microfinance start up funding to smallholder poultry farmers



Problem (poultry example):

- Poultry farming in Haiti is characterized by low-input, low-output scavenging backyard systems
- Scavenging hens may lay only 30 eggs per year where optimal conditions can encourage production as high as 280 eggs per year
- Mortality rates are 30-40% in the first 3-4 months and as high as 80% in one year
- Disease, lack of supplementary feed, inappropriate breeds, predators, and poor management are the key factors that negatively impact scavenging systems
- In excess of 80% of Haiti's poultry for domestic consumption is imported from the Dominican Republic.

Action:

- Identify, train, and equip smallholder poultry farmers in the production of eggs and poultry
- Provide microfinance support to the farmers
- Enable women to become egg and poultry retailers in local markets

Expected Outcome:

Smaller input, higher output egg and poultry production leading to Increased local income and improved economic and health conditions.



Acknowledgments

- Haiti Ministry of Public Health and Population
- FISH Ministries
- Christianville Foundation
- Académie Chrétienne de Macombre
- US Department of Defense
 - Armed Forces Health Surveillance Center
 - US Southern Command
- KORE Foundation
- Holloway Financial Services
- Samaritan's Purse
- Project Hope
- Rotary Clubs & Rotary International
 - Sunrise Rotary Club of Palatka
 - St Augustine Rotary Club
- Alachua & Levy County Health Depts.
- Double Harvest
- Family Health Ministries



- University of Florida
 - College of Public Health and Health Professions
 - Emerging Pathogens Institute
 - College of Design, Construction and Planning
 - College of Nursing
 - College of Medicine
 - College of Pharmacy
 - Student Health Service
 - Shands Hospital

Special thanks also to Elmer Redden