

Impact of FIC AIDS Training programs on HIV/AIDs in Haiti

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Fogarty 25th Anniversary AIDs/TB Program Meeting

Bethesda July 21 , 2012



Haitian Study Group on Kaposi Sarcoma and Opportunistic Infections (GHESKIO)

- Creation: May 2, 1982
- Mission: Operational research, services and training in HIV/AIDS and associated diseases
- Partnership with the Ministry of Health, Haitian Medical Association and 116 local institutions
- International collaboration with Cornell, Fondation Mérieux and 12 other institutions
- Continuous support from NIH (1982), Fogarty (1988), and Fondation Mérieux (1998) and others
- Granted status of “Utilité Publique” by Haitian government (2000)



Haiti : AIDS Challenges 1982-2012

- 1982-1990: Define the disease AIDS
 - Can the common OIs be treated?
 - What are the modes of HIV transmission?
- 1991-2002: Can the AIDS epidemic be controlled?
 - Can a model for prevention and care be developed?
 - Can antiretroviral therapy be introduced?
- 2003-present: Nationwide scale-up of comprehensive care model
 - Support from UN Global Fund and PEPFAR
- 2010-present: Earthquake, cholera, and the national elections

1984-2012: political turmoil with departure of the Duvalier government in 1986 followed by long period of instability and 2 foreign occupations

Research and training have been at the core of these interventions



Characteristics of the Acquired Immunodeficiency Syndrome (AIDS) in Haiti

“The first description of AIDS in the developing world”

Jean W. Pape, Bernard Liautaud Franck Thomas , Jean-Robert Mathurin, Marie-Myrtha A. St. Amand, Madeleine Boncy, Vergniaud Pean , Moliere Pamphile, A. Claude Laroche , Warren D. Johnson Jr.

▪ Clinical manifestations

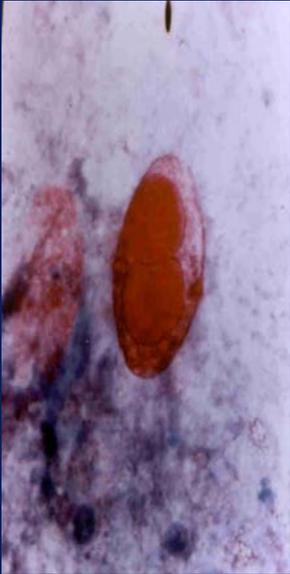
- Gastrointestinal
- Dermatological
- Pulmonary



NEJM 309:945-950, 1983

Marie Marcelle
Deschamps, MD

Diarrhea and AIDS



CLINICAL MANIFESTATIONS AND THERAPY OF *ISOSPORA BELLI* INFECTION IN PATIENTS WITH THE ACQUIRED IMMUNODEFICIENCY SYNDROME

Jack DeHovitz, M.D., Jean W. Pape, M.D., Madeleine Boncy, Warren D. Johnson, MD

N Engl J Med 315:87-90, 1986

THERAPY AND PROPHYLAXIS OF *ISOSPORA BELLI* INFECTION IN PATIENTS WITH THE ACQUIRED IMMUNODEFICIENCY SYNDROME.

Jean William Pape, Rose-Irene Verdier and Warren D. Johnson.

N Engl J Med ;320:1044-7, 1989

CYCLOSPORA INFECTION IN ADULTS INFECTED WITH HIV: CLINICAL MANIFESTATIONS, TREATMENT, AND PROPHYLAXIS

Jean William Pape, Rose-Irene Verdier, Madeleine Boncy, and Warren D. Johnson

“

An n Int Med 121:654-7, 1994

TREATMENT AND PROPHYLAXIS OF ISOSPORIASIS AND CYCLOSPORIASIS WITH TRIMETHOPRIM- SULAFAMETHOXAZOLE VERSUS CIPROFLOXACIN: A COMPARATIVE STUDY.

Rose Irene Verdier, Warren D. Johnson Jr, Jean William Pape.

Ann Int Med;132:885-8 2000



Epidemiology, definitive treatment and prophylaxis of Isosporiasis and Cyclosporiasis

Tuberculosis and HIV: Solutions with direct impact on clinical services and public health



- Can one prevent TB disease in those co-infected with HIV and TB? **Yes** Pape JW et al: *The Lancet* 342: 1993
- Can TB be cured in patients with AIDS? **Yes** Desvarieux M et al: *AMJPH* 1997
- But they recur and recurrence can be prevented Fitzgerald D et al; *The Lancet* 2001;375
- Rate of TB in persons seeking HIV testing is very high Burgess A et al, *AIDS*:15: 1875-1879 2001



Antiretroviral Therapy in a Thousand Patients with AIDS in Haiti

Patrice Severe, M.D., Paul Leger, M.D., Macarthur Charles, M.D., Ph.D., Francine Noel, M.D., Gerry Bonhomme, M.D., Gyrlande Bois, M.D., Erik George, M.D., Stefan Kenel-Pierre, B.S., Peter F. Wright, M.D., Roy Gulick, M.D., Warren D. Johnson, Jr., M.D., Jean William Pape, M.D., and Daniel W. Fitzgerald, M.D.

With ART 90% alive at 1 year

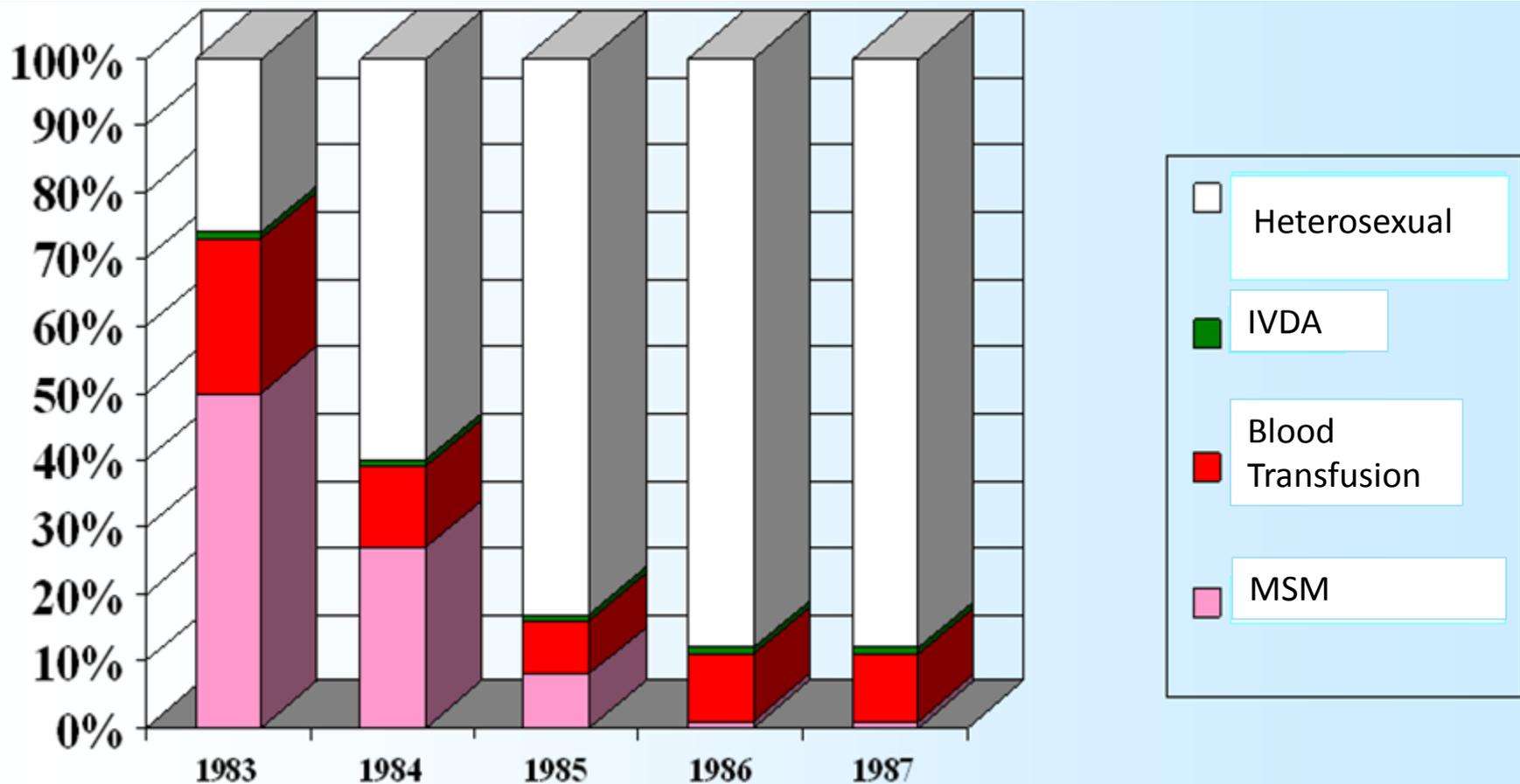
Early versus Standard Antiretroviral Therapy for HIV-Infected Adults in Haiti

Patrice Severe, M.D., Marc Antoine Jean Juste, M.D., Alex Ambroise, M.D., Ludger Eliacin, M.D., Claudel Marchand, M.D., Sandra Apollon, B.S., Alison Edwards, M.S., Heejung Bang, Ph.D., Janet Nicotera, R.N., Catherine Godfrey, M.D., Roy M. Gulick, M.D., Warren D. Johnson, Jr., M.D., Jean William Pape, M.D., and Daniel W. Fitzgerald, M.D.

When ART start early: 4 X less deaths and 2 X less TB



Risk Factors for AIDS in Haiti



Pape, J.W. and Johnson, W.D., Jr.: Epidemiology of AIDS in the Caribbean. In: *Baillier's Clinical Tropical Medicine & Communicable Diseases*, Vol 3, Piot, P. and Mann, J. (eds), 1988, pp. 31-42.



Capacity Building through the Fogarty (1)

- AITRP :GHESKIO trained a large number of trainees
 - Backbone for 10 NIH sponsored trials with > 1,400 subjects addressing key issues in care/prevention of HIV and TB: optimal time to start ART, PMTCT, HIV vaccine trials, optimal co-treatment of AIDS and TB: **159** long term Haitian trainees in laboratory, translational, and clinical research.
- ICORTHA: AITRP trainees in turn trained in operational research long term trainees among health professionals from public and private sectors
 - **70** trained in operational and implementation science research to scale-up major HIV/STI/TB national programs



Capacity Building through the Fogarty (2)

- Establish important public health programs in collaboration with local institutions:
 - Laboratory in collaboration with the National Public Health Lab
 - MPH in collaboration with Quisqueya University
 - NP in collaboration with Quisqueya University
- Within the Caribbean instrumental in creation of:
 - Trans Caribbean HIV/AIDS Network Initiative (TCHARI)
 - Caribbean HIV/AIDS Regional Training (CHART)



Volunteers on NIH-research protocols 2010-2012

| | Jan 12, 2010 | Jan 12, 2011 | Jan 12, 2012 | Jun 12, 2012 |
|----------------|-------------------|---|---|--|
| HVTN | 245 (4 trials) | 359* (4 trials) | 338 (3 trials*) 1 trial completed | 11 (2 trials*) 2 trials completed |
| ACTG | 177 (4 trials) | 334* (5 trials) 2 completed | 401 (5 trials*) 3 completed | 384 (5 trials*) 3 completed |
| CIPRA | 737 | 727* | 706 | 700 |
| IMPAACT | Not yet open | SIP approved | 3 | 14 |
| TOTAL | 1,159 | 1,400* *16 deaths due to quake | 1,448 Lead in 3 ongoing protocols A5234,A5254,HVTN 907 | 1109 *Lead in 2 ongoing protocols A5234 & A5254 |

Health care workers trained at GHESKIO

2004 – June 2012

| Health care providers | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | TOTAL |
|-----------------------|------|------|------|------|------|------|------|------|------|-------|
| Lab technicians | 111 | 60 | 98 | 58 | 69 | 139 | 105 | 150 | 170 | 960 |
| Social Workers | 60 | 29 | 44 | 41 | 154 | 26 | 44 | 65 | 52 | 515 |
| Nurses | 342 | 534 | 239 | 174 | 283 | 212 | 238 | 367 | 315 | 2704 |
| Physicians | 101 | 132 | 143 | 129 | 97 | 228 | 208 | 161 | 162 | 1361 |
| Others | 20 | 70 | 119 | 26 | 32 | 52 | 256 | 231 | 197 | 1003 |
| TOTAL | 634 | 825 | 643 | 428 | 635 | 657 | 851 | 974 | 896 | 6543 |





Les Centres GHESKIO



Université Quisqueya



Cornell University

First Master in Public Health in Haiti (MPH) (2005)

- Increase capacity in implementation science on major public health problems: AIDS, TB, Malaria, HPV, Nutrition, Ethics, Cost effectiveness...
- Courses offered by Haitian and international faculty from Cornell, 9 other US universities and 3 French institutions.
- Combination of course work (10 core courses) and mentored research
- Designed to allow students to participate while working in Haiti: classes offered in 3-week blocks including afternoon.
- 115 participants: private 70% and public 30%
 - 77 (67%) participants attended 1 or 2 courses for a certificate of participation.
 - 38 (33%) participants enrolled in MPH program; 4 graduated and 34 participants are currently active: 6 MPH in 2012

MPH program officially approved by the MOH





Centres Gheskio

Université Quisqueya

Cornell University

NURSE PRACTITIONER PROGRAM (2009)



- Nurses already in HIV/AIDS national health system
- 12 month curriculum developed in collaboration with Quisqueya University and Cornell
- Certification degree by Quisqueya University
- 10 graduated
- 6 new ones enrolled in 2012
- 90% are from public hospitals

NP program officially approved by the MOH



Laboratory Technician Training Programs

in collaboration with National Public Health Laboratory

- 1 year advanced training (practical and theoretical) for students enrolled at 5 best Schools of Med.tech.
 - ❑ 30 in 2008-2009
 - ❑ 32 in 2009-2010
 - ❑ 31 in 2010 – 2011

4 of the 5 schools for lab technicians collapsed

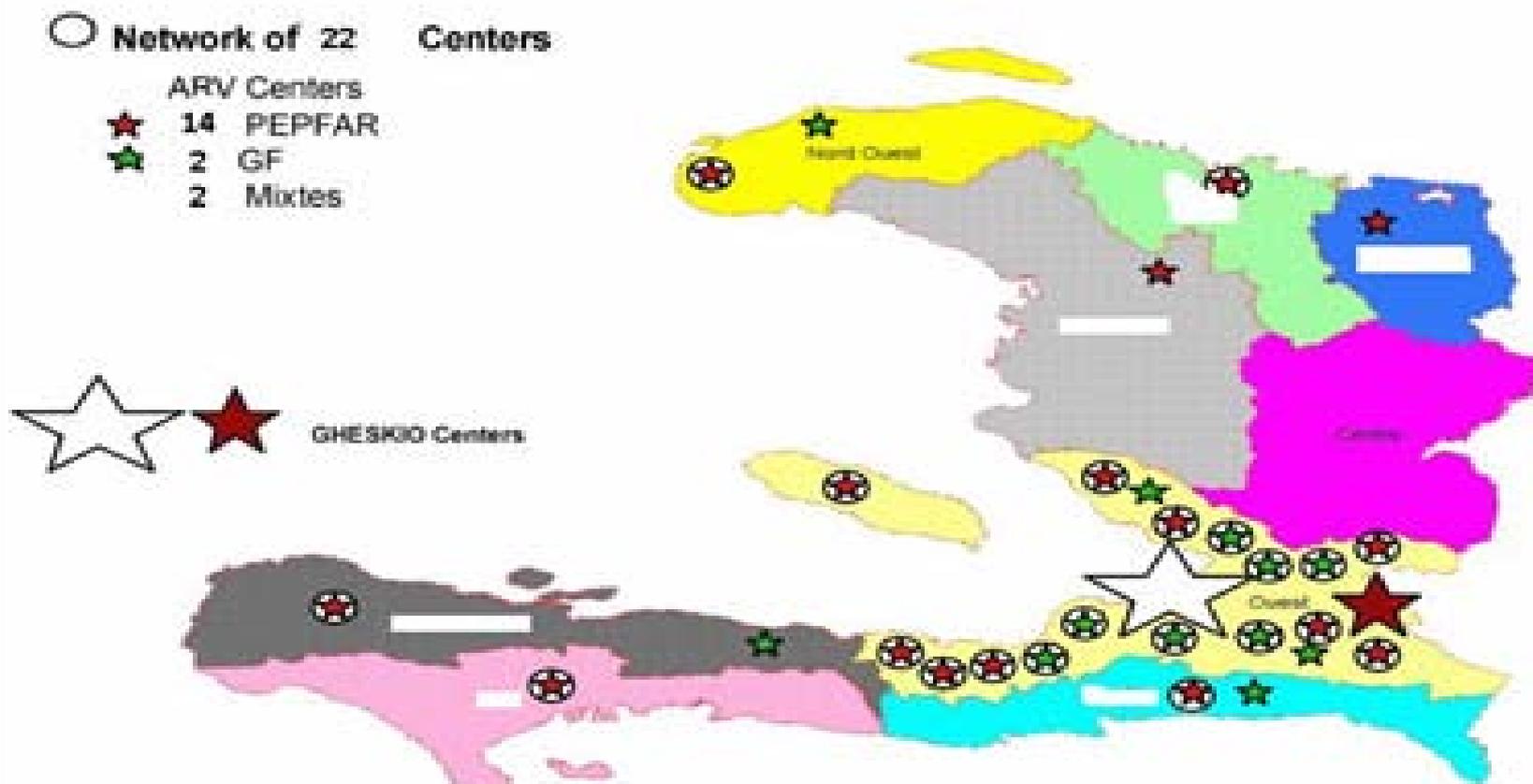
- 1 year internship for recently graduated lab techs for scale-up of national HIV and TB programs
 - ❑ 10 in 2008-2009
 - ❑ 20 in 2009-2010
 - ❑ 9 in 2010 – 2011
 - ❑ 10 in 2012-2013

Different rotations in microbiology, serology, immuno-hematology, biochemistry, HIV molecular biology, and QA/QC program...
- BS in Biological and Applied Medical Science (BAMS) in collaboration with NPHL, Université Catholique de Lyon and Fondation Merieux:
 - ❑ 18 graduates in 2011-2012



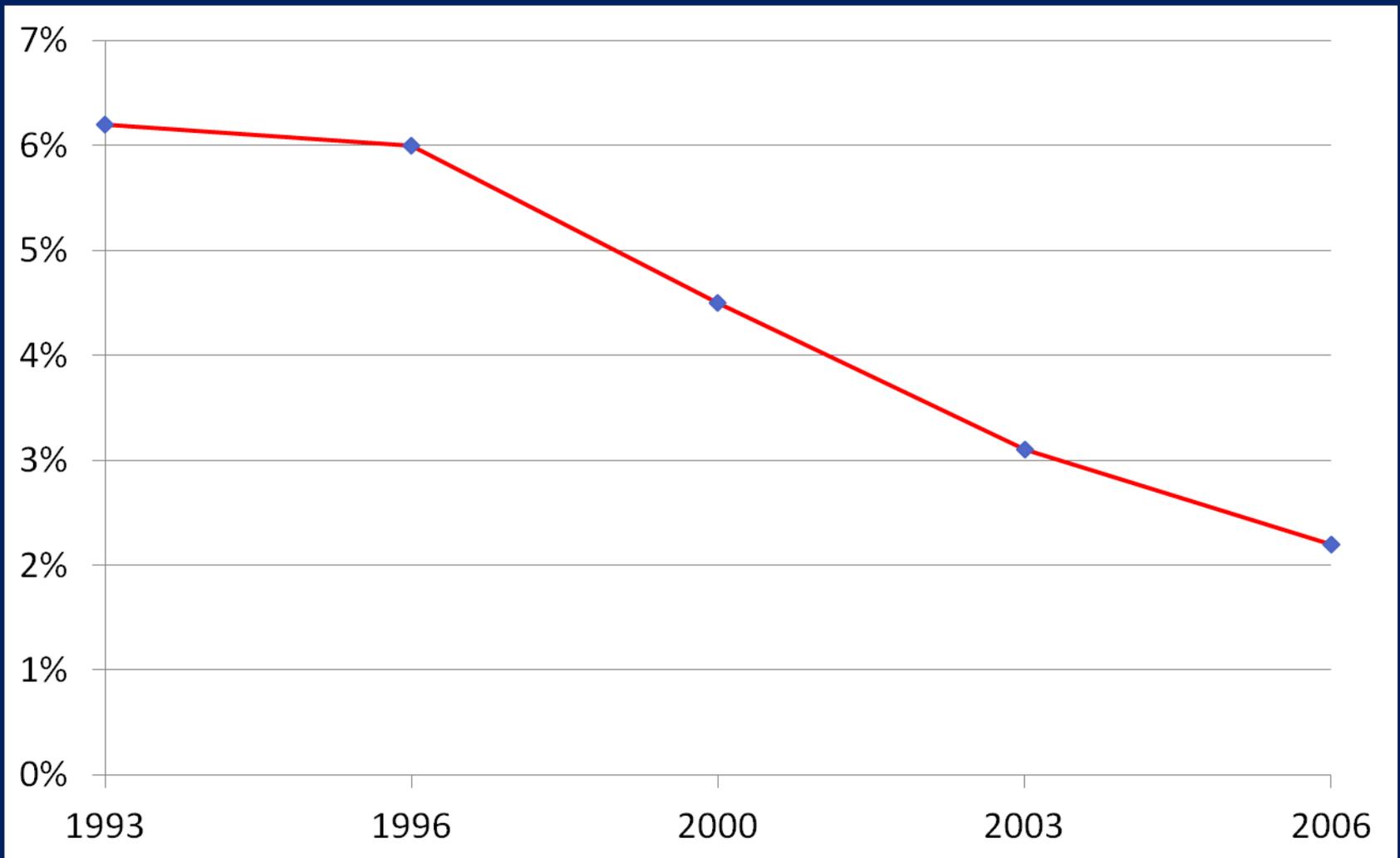
National Scale-up of Ministry of Health-GHESKIO Integrated Prevention and Care Model

National Scale-up of GHESKIO Integrated Prevention and Care Model (2012)



(2003-2012)

HIV seroprevalence in Haiti (1993 – 2006)



The NEW ENGLAND JOURNAL of MEDICINE

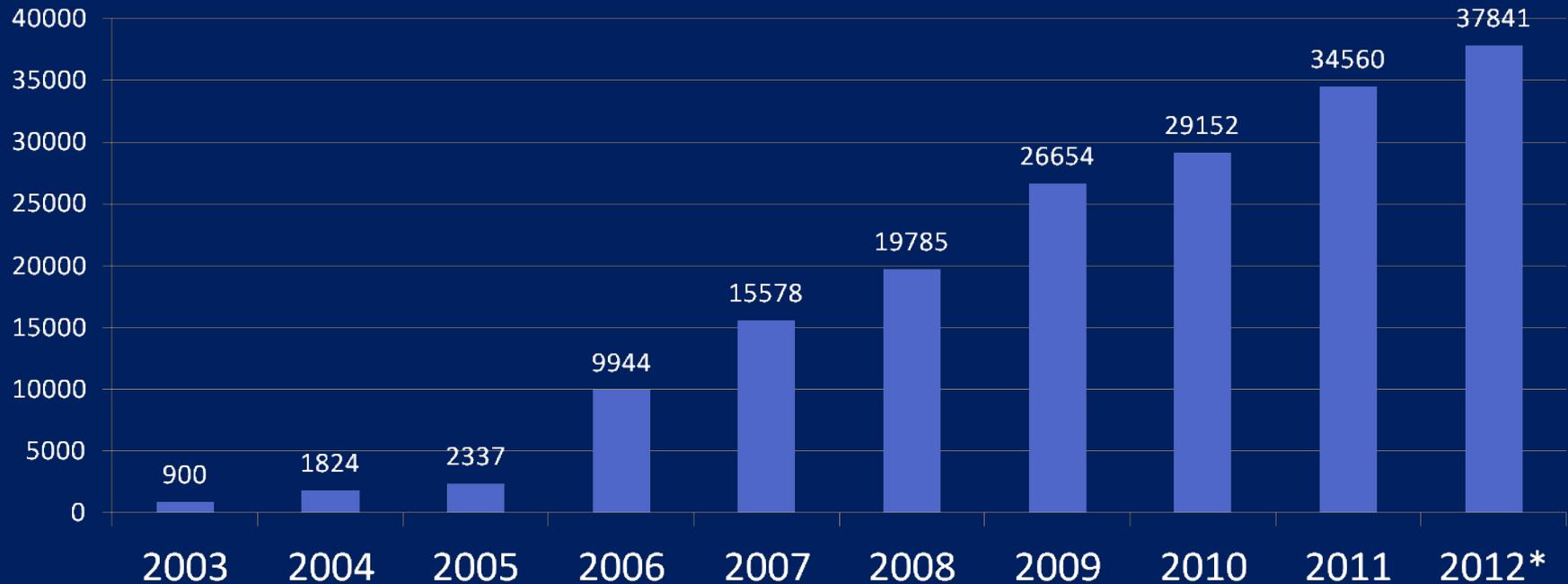
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* 2012, as of May 2012



Inauguration of 2nd GHESKIO Center

Warren D Johnson Medical Center



February 9, 2009



Earthquake impact on GHESKIO

- 4 Staff members dead, 70 lost 1 or more family members
- 65% of GHESKIO buildings damaged or destroyed



Boulevard La Saline - Main Commercial Center

GHESKIO refugee camp, field hospital, and clinics



7,145 refugees; 75% women and children

Global Health Program for IDP at the GHESKIO camp



- Available potable water from day 1
- Daily evaluation of patients with fever, cough, diarrhea and rash
- Immunization of children and pregnant women, prenatal care
- Prevention of gender violence and STIs
- Creation of a vocational school and a primary school
- Microcredit and job creation

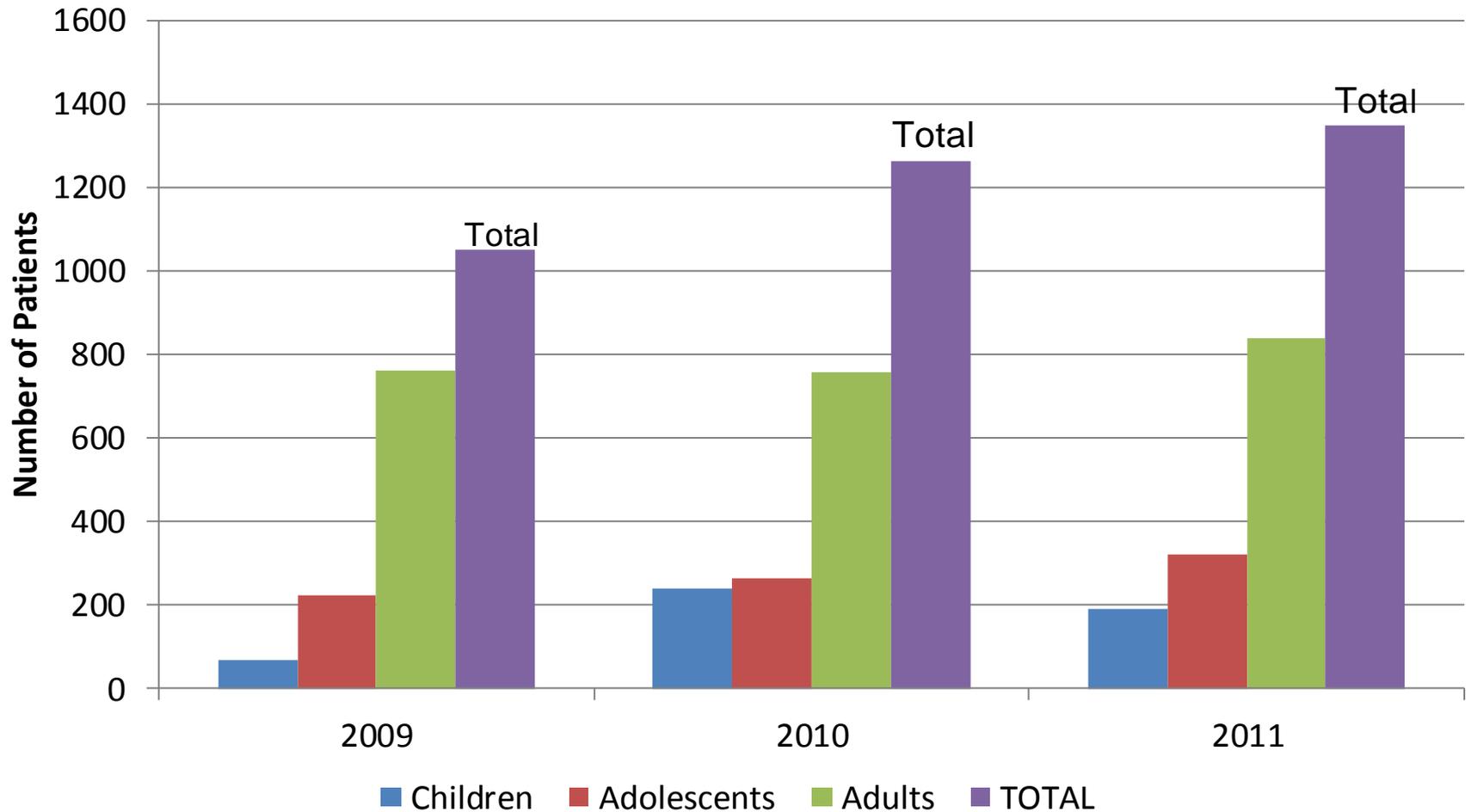


Vocational and Primary Schools



Egg production and sale

GHESKIO TB Cases: 2009-2011



GHESKIO TB Laboratory Work Load

| Tests | 2009 | 2010 | 2011 | 2012 January-June |
|--|--------|--------|-------------------------|----------------------|
| TB Screening (AFB smear) | 18,720 | 24,677 | 29,315 | 17,688 |
| Culture | 2,139 | 1,616 | 4,223 | 3,150 |
| Conventional SIRE/PZA DST | 423 | 134 | 330 | 124 |
| Rapid molecular sensitivity test | 139 | 671 | 1,862 | 807 |
| (MTBDRplus) | | | | |
| GeneXpert | 0 | 0 | 759 started May 2011 | 1400 |
| MDR-TB detected | 9 | 30 | 61 | 39 |



Immunization with Oral Cholera Vaccine

April 12 – July 10, 2012

1st Dose : N = 52, 357 2nd Dose : (91.0%)



1: Village de Dieu

2: Cité de L'éternel

3: Cité Plus

4: Matissant



GHESKIO Rebuilds



New MDRTB Hospital in construction



Family Nutrition Center in construction



Prince Albert Primary School completed



Outcomes after 3 Decades

- Constant partner of the MOH: Developed models that have been scaled-up with MOH nationally:
 - HIV/AIDS and cholera
- 150 publications on AIDS/TB, introduction and validation of ART and therapies for OI and TB
- Nationwide training programs
- Attracted/nurtured new generations of professionals
- Now addressing new challenges of TB, cholera , HPV, malnutrition and earthquake displaced persons
- The NIH : uninterrupted support for research and training at GHESKIO since 1982 – NIAID, NCI and Fogarty International Center.

