

# Health system design

## Lessons from Haiti and Rwanda

Paul Farmer, MD, PhD

Harvard Medical School

Brigham and Women's Hospital

Partners In Health

Health Science & Technology S14

MIT, Building 32

May 4, 2012

# Partners in Health, 2012



**Research, Training, Service**

Image by MIT OpenCourseWare.

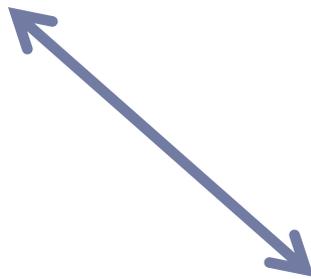
# What is health system strengthening?



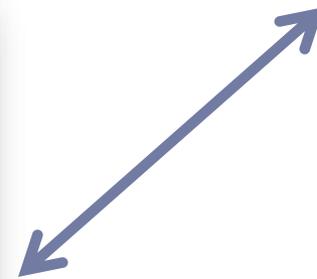
Community-based



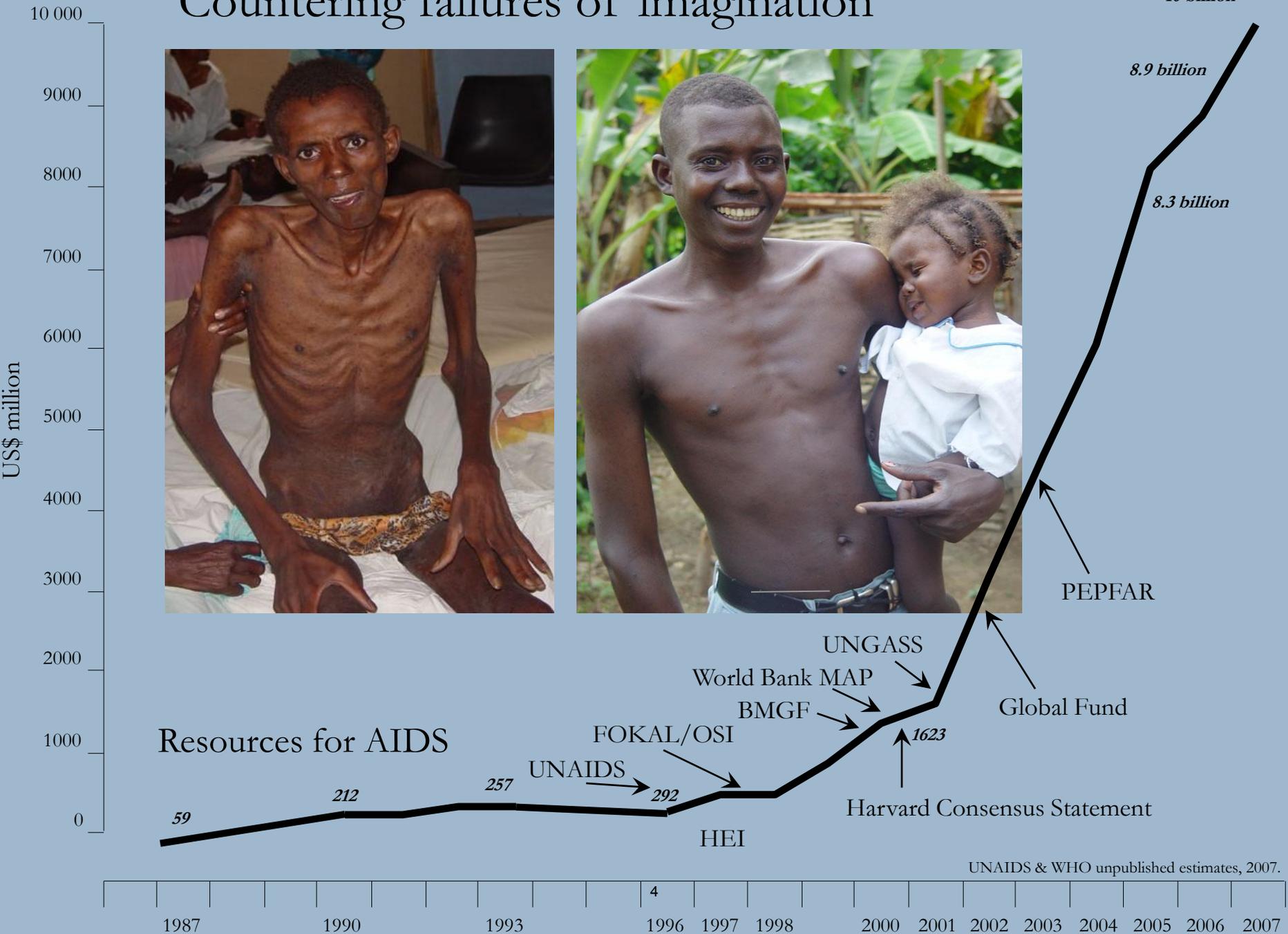
Hospital-linked



Health-center enriched



# Countering failures of imagination



# Accompaniment

## A cornerstone of care



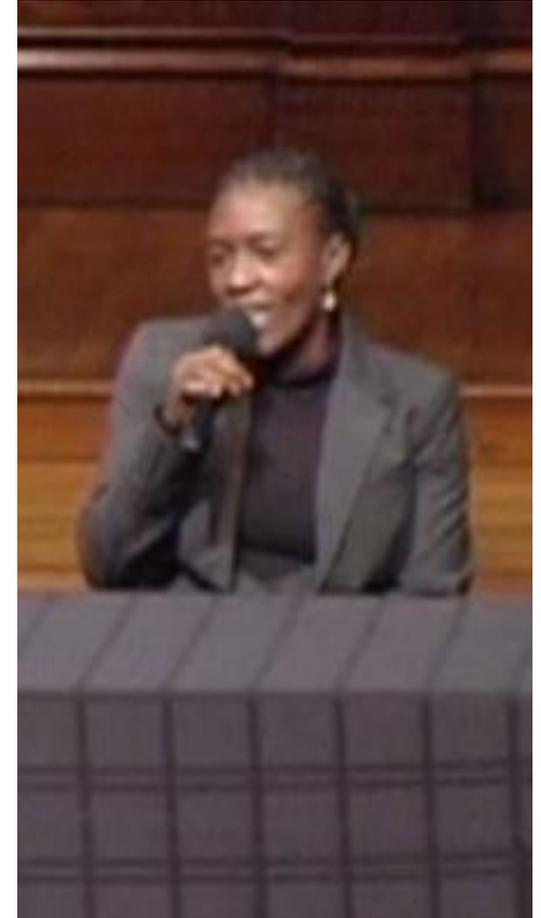
June 1999



1 year later



With *accompagnateur*



10 years later

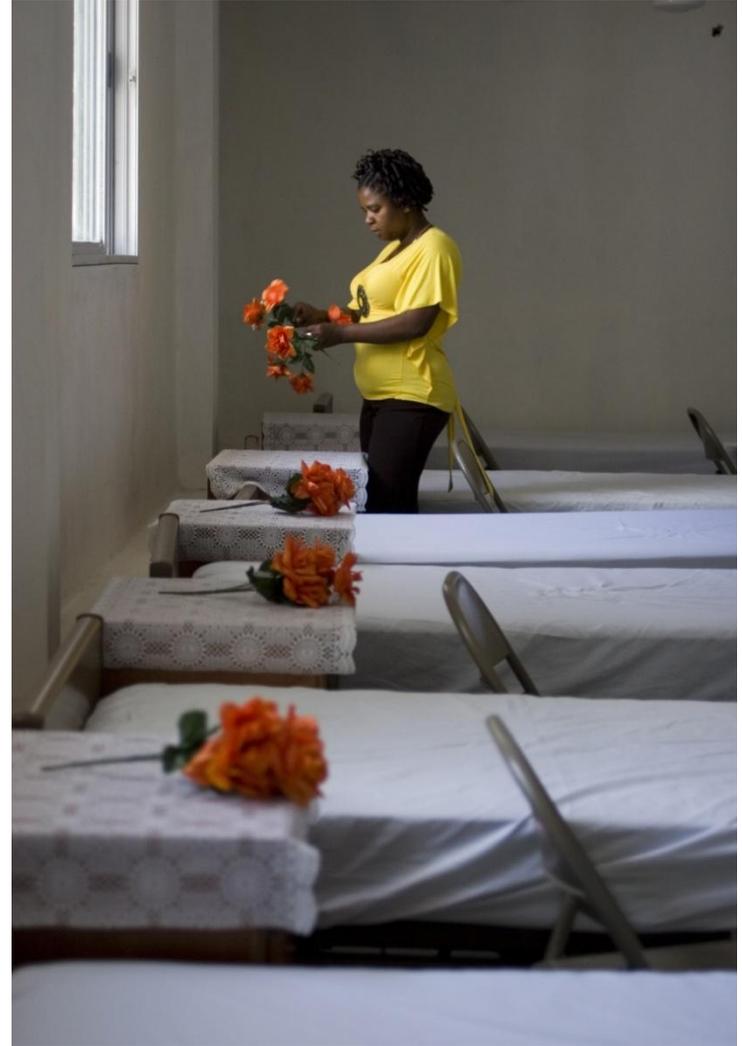
# Public-private partnerships

Boucan Carré, 2003



# Public-private partnerships

## Lascahobas, 2008



# Public-private partnerships

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Map of Haiti showing Zanmi Lasante locations removed due to copyright restrictions.

# Haiti/Zanmi La sante

(continued)

comprehensive clinical services, many of which—such as neonatal intensive care and thoracic surgery—are not currently available at any public facility. When the hospital becomes fully operational, it will be the largest functioning hospital in the country, with the capacity to treat upwards of 500 patients per day and provide high-quality education for nurses, medical students, and resident physicians.

**Provided mental health, psychosocial support, and rehabilitative services:** Since the earthquake in January 2010, ZL's Mental Health and Psychosocial Support team has more than doubled the number of psychologists, social workers, and community health workers trained to identify, refer, and support people suffering from myriad mental health problems. The services provided, such as the treatment of depression, anxiety, post-traumatic stress, and psychosis, have been integrated into the comprehensive system of care at all ZL sites to better support the mental health needs of all our patients.



ZL also trained seven rehabilitation educators to provide specialized rehabilitative accompaniment to an estimated 225 patients, many of whom were injured in the earthquake. In addition, plans were completed for Haiti's first wheelchair-accessible public sector rehabilitation center at the hospital ZL runs in partnership with the

Ministry of Health in Saint-Marc. This facility will provide rehabilitation services and be the site for a nine-month Rehabilitation Technician Training program.

**Cared for children with physical and developmental disabilities:** Zanmi Beni, Creole for "Blessed Friends," is home to 50 unaccompanied minors and vulnerable children with physical or developmental disabilities, abandoned in the crumbled pediatric ward of Port-au-Prince's General Hospital in the days following the earthquake. In April 2010, ZL purchased land in a quiet neighborhood of Port-au-Prince to build what is now a safe haven and caring home providing the children an educational and loving environment in which to thrive. Zanmi Beni strives to reduce the stigma and discrimination faced by children with special needs, and has already become a model center for addressing special needs in resource-poor settings.



## BY THE NUMBERS

**2.8 million** total patient encounters (all services included)

**13,784** children received educational assistance

**53** houses constructed or repaired

**6,268** HIV-positive patients on treatment

**482** TB patients treated

Approximately **75,000** cholera patients treated

**9,780** children treated for moderate or severe malnutrition

**25,269** active users of modern contraception methods

**98,735** pregnant women seen in antenatal clinic

Staff:

**1,192** medical

**1,841** non-medical

**2,378** community health workers

# Informatics and care for those who need it most

OPENMRS

Currently logged in as Super User | [Log out](#) | [My Profile](#) | [Help](#)

Home | Find/Create Patient | Dictionary | Cohort Builder | Administration

**John Mamwa Shavola** OpenMRS Identification Number: **7279MP-4**

53 yrs (~11-Dec-1956)

**BMI: 1.2** ( Weight: 1.2381248124E10 kg , Height: 100.0 cm ) CD4: 400.0 | Regimen: **Triomune-30**

Last encounter: **ADULTRETURN @ Wishard Hospital, 18-Sep-2010**

Overview | Regimens | Encounters | Demographics

## Encounters

Show 20 entries

Edit	View	Encounter Date	Encounter Type	F
		18/09/2010	ADULTRETURN	S
		18/09/2010	ADULTINITIAL	S
		17/09/2010	ADULTRETURN	S
		06/06/2006	ADULTRETURN	S
		09/05/2006	ADULTRETURN	S
		11/04/2006	ADULTRETURN	S

Showing 1 to 6 of 6 entries

## POLICIES & POTENTIAL

By Joaquin A. Blaya, Hamish S.F. Fraser, and Brian Holt

# E-Health Technologies Show Promise In Developing Countries

doi: 10.1377/hlthaff.2009.0894  
HEALTH AFFAIRS 29,  
NO. 2 (2010): 244-251  
©2010 Project HOPE—  
The People-to-People Health  
Foundation, Inc.

Joaquin A. Blaya (jblaya@hms.harvard.edu) is a National Library of Medicine Fellow in the Decision Systems Group at Brigham and Women's Hospital in Brookline, Massachusetts.

Hamish S.F. Fraser is an assistant professor in the Division of Global Health Equity at Brigham and Women's Hospital and Harvard Medical School.

Brian Holt is a workflow analyst in EMR workflow

**ABSTRACT** Is there any evidence that e-health—using information technology to manage patient care—can have a positive impact in developing countries? Our systematic review of evaluations of e-health implementations in developing countries found that systems that improve communication between institutions, assist in ordering and managing medications, and help monitor and detect patients who might abandon care show promise. Evaluations of personal digital assistants and mobile devices convincingly demonstrate that such devices can be very effective in improving data collection time and quality. Donors and funders should require and sponsor outside evaluations to ensure that future e-health investments are well-targeted.

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# From Haiti to Rwanda



2005: GoR, with CF support, invites PIH to implement rural health model

# Service



# Strengthening and studying rural health systems

- Research and professional development of trained health workers

- Evaluate large-scale model delivered in public sector
- Build local clinical and research capacity

Graph showing increasing number of people treated per month for tuberculosis and HIV has been removed due to copyright restrictions.

# Training



# (Re)building infrastructure

Rwinkwavu, 2005



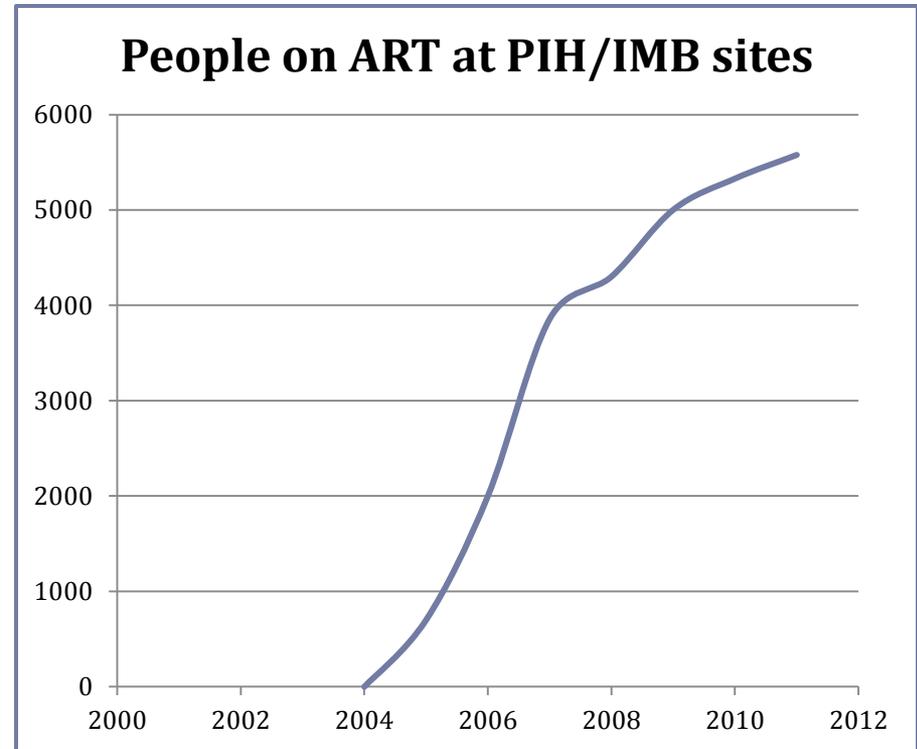
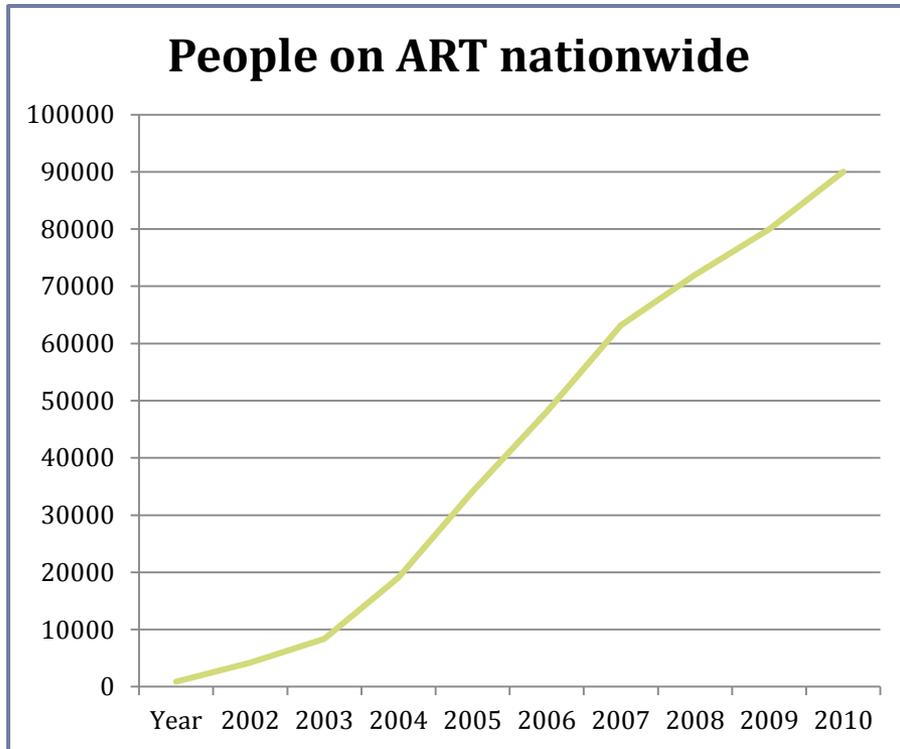
# (Re)building infrastructure

Butaro, 2011



GoR covered 25% construction costs and 48% operating costs

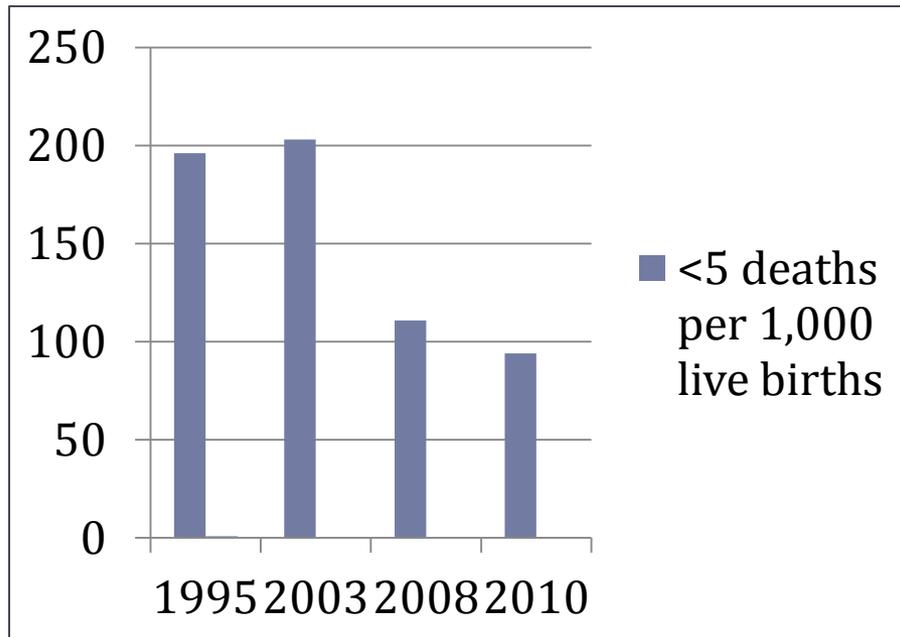
# Horizontal, vertical, diagonal



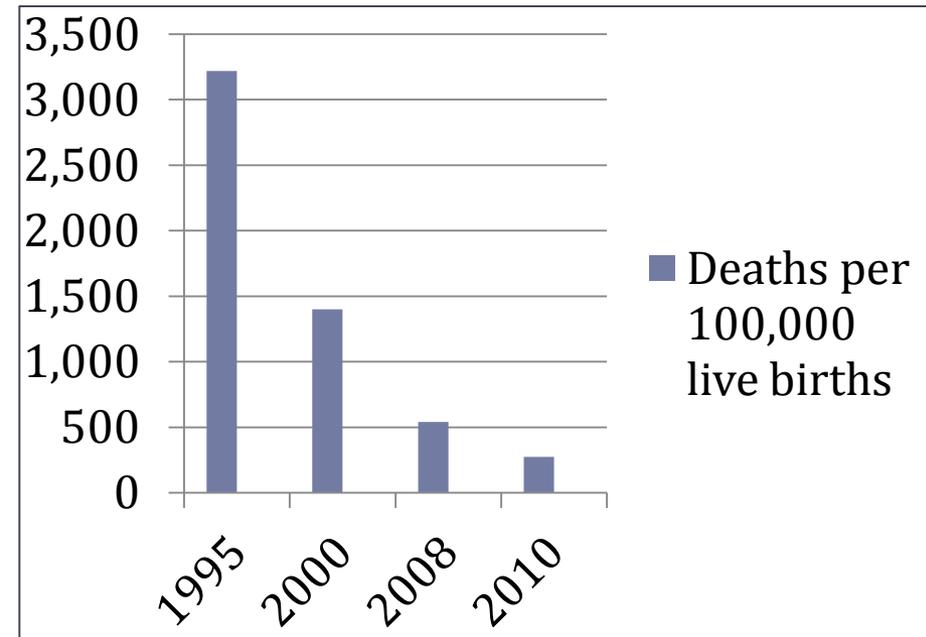
More than 90,000 Rwandans on ART (>80% of PLWA)

# Horizontal, vertical, diagonal

Child mortality



Maternal mortality



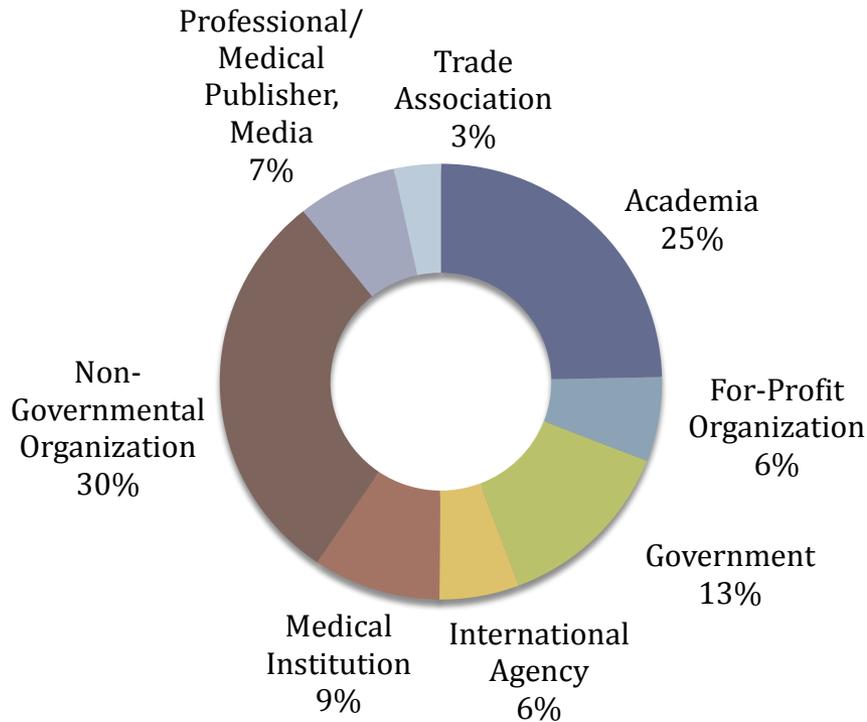
# Scaling up in rural Africa



Image by MIT OpenCourseWare.

Various logos removed due to copyright restrictions, including Partners in Health, Khotso Pula Nala, Republic of Rwanda Ministry of Health, Malawi Ministry of Health, Clinton Foundation, and others.

# Global Health Delivery Online



More than 6,800 members representing more than 2,149 organizations across 158 countries



# “Natural disasters” & the limitations of health system design: 2010 nursing school collapse



# Cholera in Haiti and the limitations of health system design

- Cholera confirmed Oct 22 by Haitian Ministry of Health and CDC within 48 hrs of outbreak of acute watery diarrhea in the lower Artibonite
- Confirmed in PaP by Nov 8
- As of Apr 8:
  - > 532,925 cumulative cases
  - > 7,095 deaths





Diagram removed due to copyright restrictions. Please see diagram here: ([PDF](#))

# (Re)building water and sanitation systems?

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Photos of faucet with clean water and group of villagers waiting with buckets to collect water have been removed due to copyright restrictions.

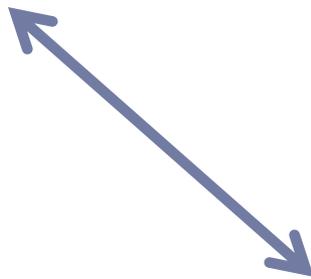
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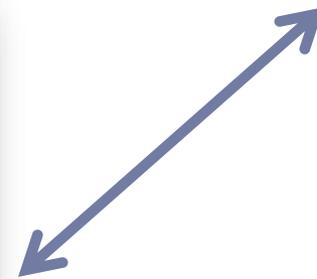
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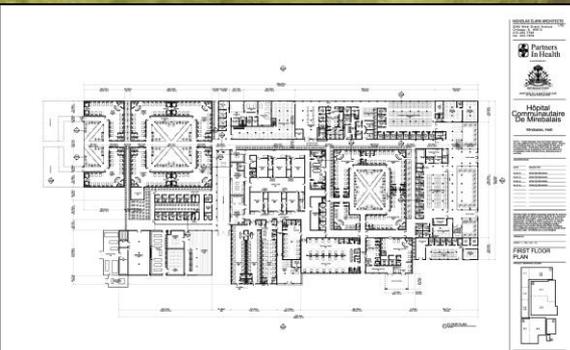
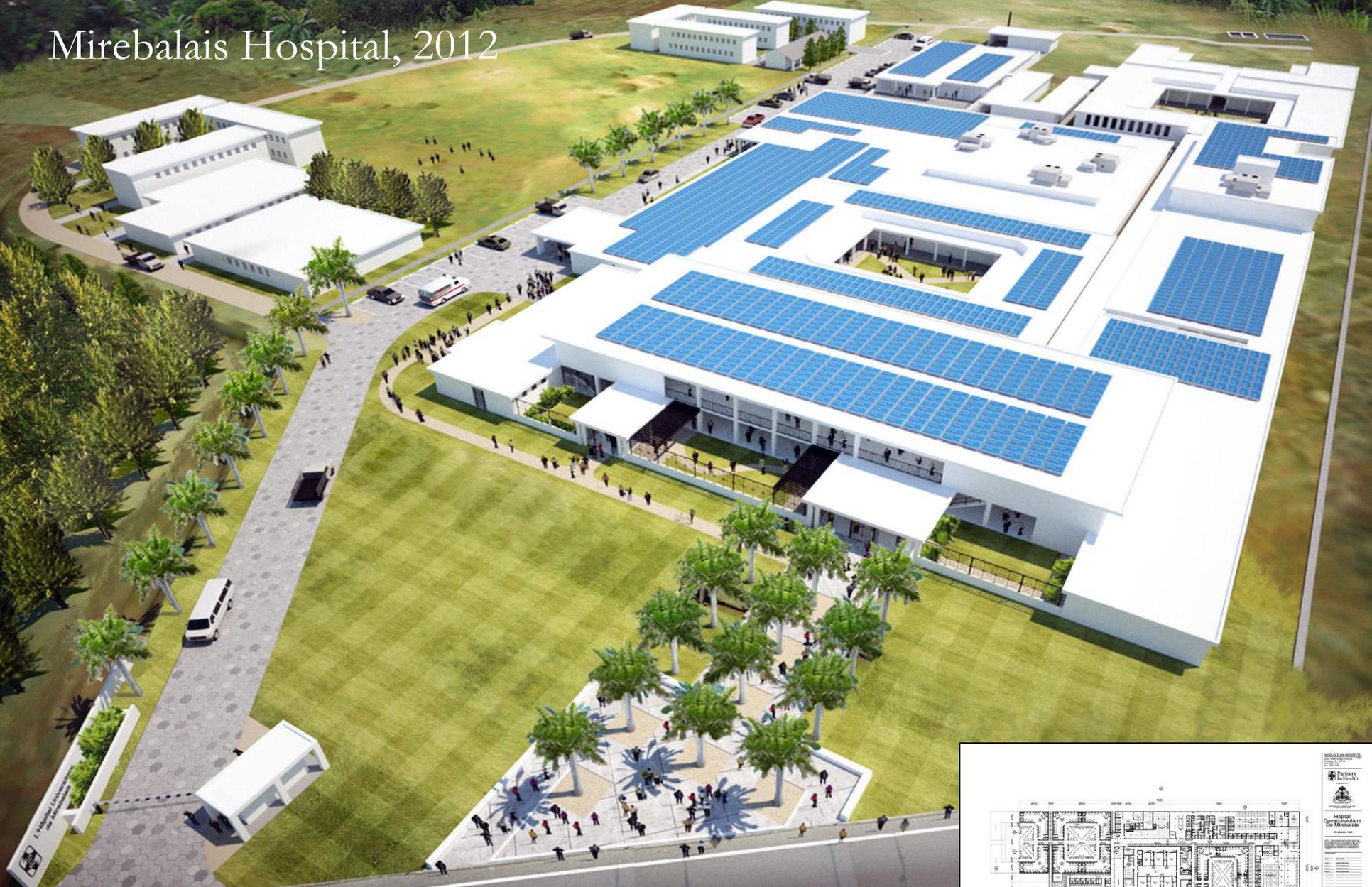
Hospital-linked



Health-center enriched



# Mirebalais Hospital, 2012





Thank you

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HST.S14 Health Information Systems to Improve Quality of Care in Resource-Poor Settings  
Spring 2012

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