

Global Health

Why Now? Why Here at Stanford?

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Director of Global Health Programs in Internal Medicine

Global Health

A. Definition – What Is It?

B. Why Now?

C. Why Here at Stanford?

D. The Many Faces of Global Health at
Stanford



“Of all the forms of inequality,
injustice in health care is the
most shocking and inhumane”

Martin Luther King, Jr - 1966



Hôpital Albert Schweitzer - Haiti

Global Health: Then and Now



Am I a dinosaur?

Global Health Definition

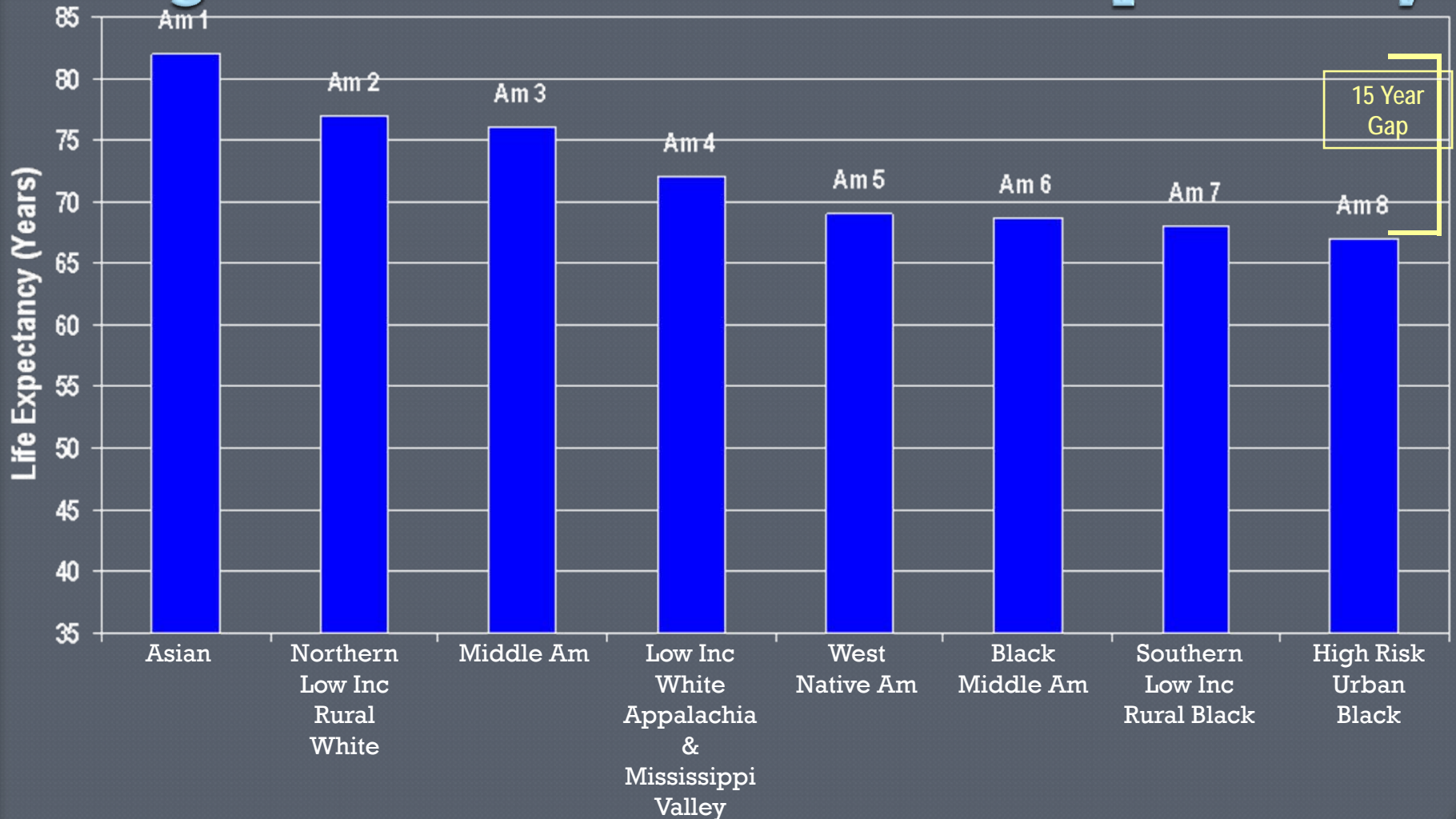


Mutuality

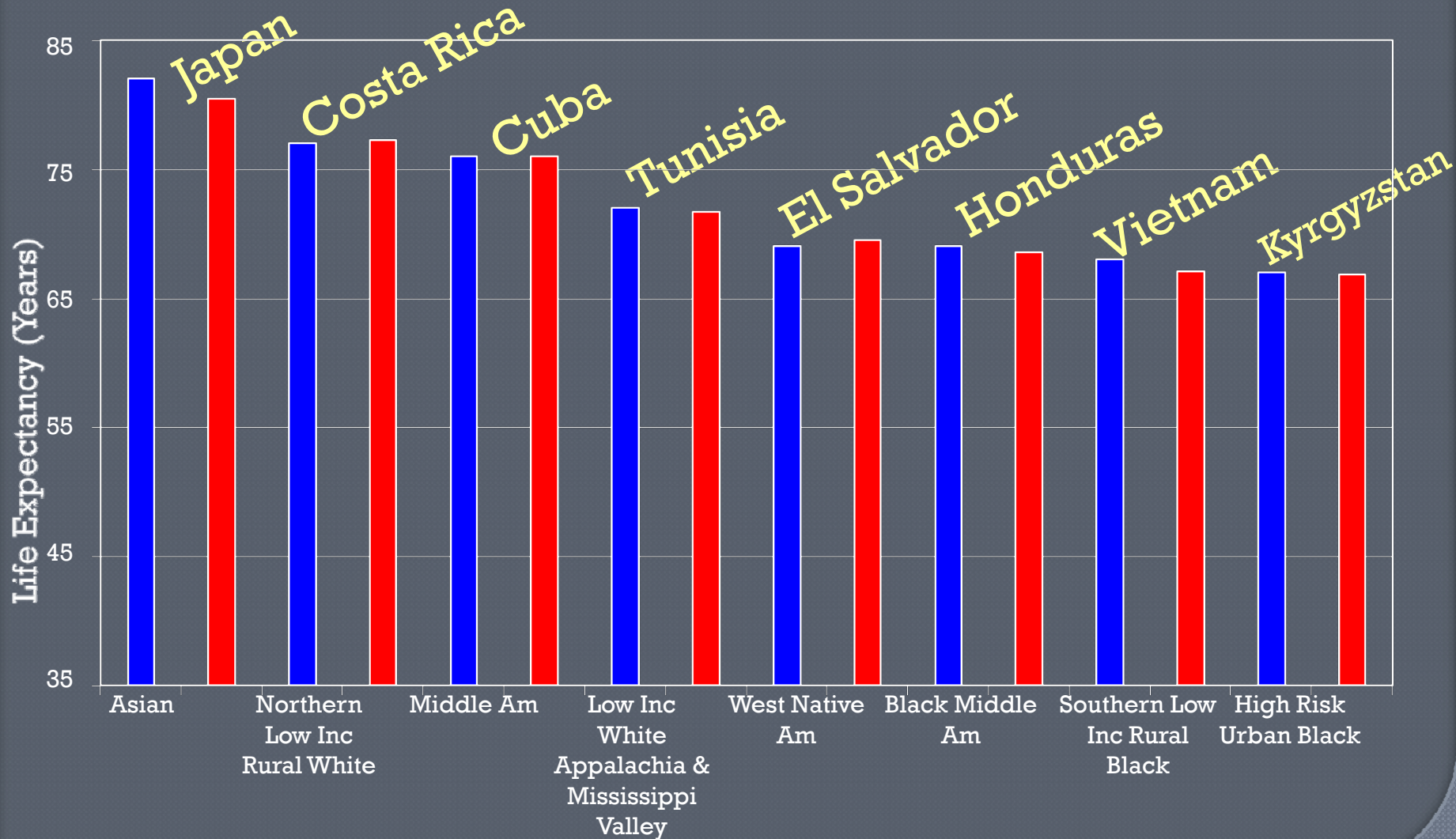
Combines medicine, social sciences, anthropology, law, engineering,
“transdisciplinary study”

Global is Local

Eight Americas - Male life expectancy



Eight Americas & World Life expectancy at birth



Global Health Definition

An area for interdisciplinary study, research and practice that places a priority on achieving **equity in health** for people worldwide.

Millennium Development Goals (MDGs):
192 United Nations member states - 2015

1. Eradicate Extreme Poverty and Hunger
2. Achieve Universal Primary Education
3. Promote Gender Equality and Empower Women
4. Reduce Child Mortality
5. Improve Maternal Health
6. Combat HIV/AIDS, malaria and “other diseases”
7. Ensure Environmental Sustainability
8. Develop a Global Partnership for Development

Global Health Definition

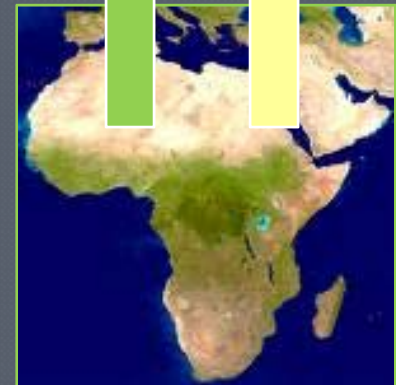
Missing Agenda in Millennium Goals

- Chronic non-communicable diseases
- Social Determinants of Health
- Road Traffic/Injury
- Mental Illness
- Tobacco
- War/Post-conflict
- Climate Change and Health Sequelae
- Workforce Maldistribution

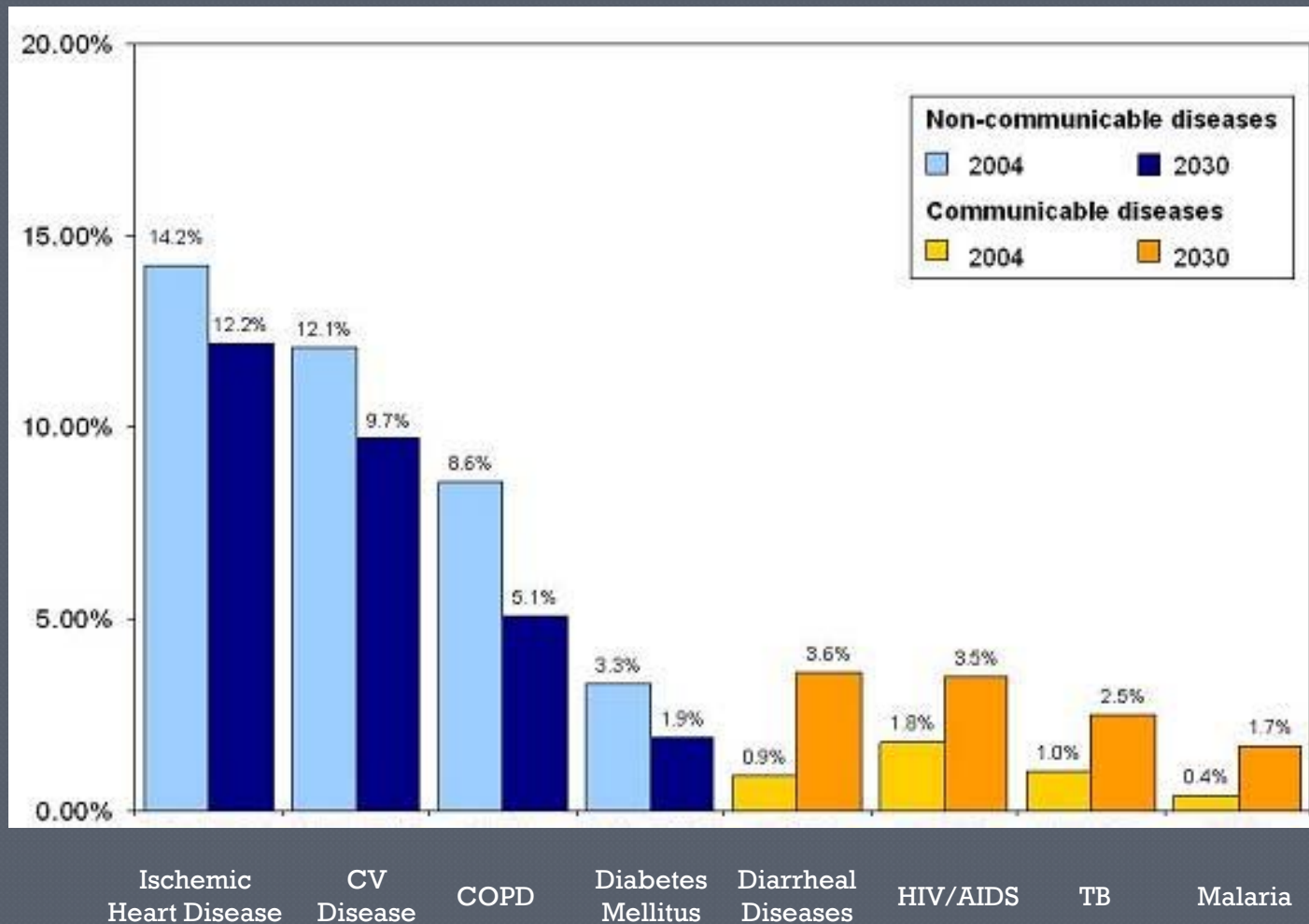


25% disease burden

4% health workforce



Projected Global Health Deaths



Global Health: Why Now at Universities?

Paradigm Shift in Thinking or Fad?

Consortium of Universities for Global Health (CUGH)

The Dramatic Expansion of University Engagement in Global Health

Implications for U.S. Policy

A Report of the CSIS Global Health Policy Center

authors:
Michael H. Moran
Kimberly Chapman Page



April 2009

CSIS | CENTER FOR STRATEGY & INTERNATIONAL STUDIES



Global Health Interest: Why Now for this Generation?

- Global interconnectedness/media
- Mobility around the world/global citizenry
- Web space/immediacy of issues
- HIV epidemic
- Pandemic (SARS, Influenza)
- Global Health Aid 5.6 billion (1990)→ 21.8 billion (2007)⁽¹⁾
- Egregious Globalization Gaps?⁽²⁾

(1) Ravishankar N et al. Financing of global health: tracking development assistance for health from 1990 to 2007. *Lancet* 2009; 373: 2083

(2) Barry M. Diseases without borders: Globalization's challenge to the American Society of Tropical Medicine and Hygiene: a call for public advocacy and activism. *AJTMH* 2003; 69(1)

Has Globalization Been Good for Health?



Globalization 's Impact on Health:

1. **E**gregious **G**lobalization **G**aps impacting health
2. **G**lobal Multinational Interests and Health
3. **G**lobalization and Brain Drain

Salient ethical imperatives we are in a unique position to address as health professionals

“Cracking the EGGS”



Advocate and commit to:

- Addressing social, economic and cultural aspects of health rather than disease only approaches
- Assuring that food, clean water and health are basic human rights and protected from profit exploitation
- Redesigning an essential drug policy and access to targeted generic production of breakthrough drugs
- Broadening of research goals to encompass a greater proportion of the global burden of disease

Globalization of Clinical Research: Shift to Overseas Sites

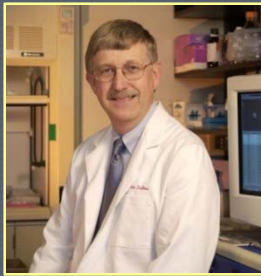
Number of non-US countries serving as trial sites, has doubled in 10 years

- Since 2002, the number of applications to the FDA by non-US based investigative trials has increased by 15%
 - Ethical concerns: cultural relevance, informed consent
 - Regulatory oversight/IRB transparency
 - Local brain drain diversion to trials
 - Genomics may not be generalized
 - Distributive Justice – are drugs available to subjects?

Glickman S et al, Ethical and Scientific Implications of the Globalization of Clinical Research, *NEJM* 2009, 360; 8: 816-28

Barry M, Ethical Considerations of Human Investigation in Developing Countries. *NEJM* 1988; 319:1083-86

Consortium of Universities in Global Health



Francis Collins, MD, PHD
Director of NIH

Global Health is one of the five priorities for NIH
← “Global Health can make us more of a doctor to the world than a soldier to the world”

Global Health is an ethical imperative

- Cost-effectiveness of interventions: “bang for the buck”
- Sustainable infrastructure
- Integration of programs (no stove-piping)
- Hard outcomes (not # nets, HAART)

US Budget 2009-2014: 61 billion

2003-2008: 27 billion

Partnerships – US cannot do it alone



Ezekiel Emanuel, MD, PHD
Advisor to Director of OMB

Global Health: Why Now?

Consortium of Universities in Global Health (CUGH) Study 2006-2009

- In the past 3 years: 37 universities in the US have started 302 long term training and education projects in 97 countries
- In the past ten years: 41 universities in the US have created new “Global Health Institutes”
- The “G – generation” – Global Health Equity



Kanter S. Global Health is More Important in a Smaller World. *Academic Medicine* 2008; 83

CSIS: Chapman & Merson (eds) Dramatic Expansion of US Universities in Global Health, April 2009

Global Health: Why Now During Medical Training?

Global Health in Medical Education: A Call for More Training and Opportunities

Drain, P, Primack, A, Hunt, D, Fawzi, W, Holmes, K, Gardner P, *Academic Medicine* 2007:82, p.226

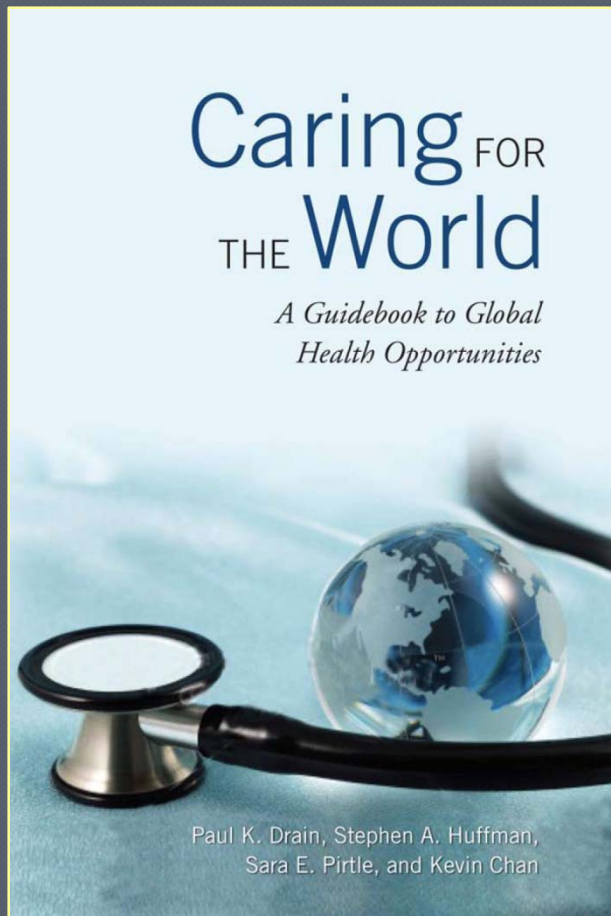


Global Health Training and International Clinical Rotations During Residency: Current Status, Needs, and Opportunities

Drain, P, Holmes, K, Skeff, K, Hall, T and Gardner, P. *Academic Medicine* 2009:84, p.320



Global Health: Why Here at Stanford During Medical Training?



- In 2008 Paul Drain, MD surveyed 800 residents at Stanford across 16 departments
218 responded
- 89% wanted an international rotation
- 83% planned to conduct global health work after residency
- Internal Medicine responders = 70/218

Global Health: Career Impact?

Am. J. Trop. Med. Hyg., 61(6), 1999, pp. 1019–1023
Copyright © 1999 by The American Society of Tropical Medicine and Hygiene

THE INTERNATIONAL HEALTH PROGRAM: THE FIFTEEN-YEAR EXPERIENCE WITH YALE UNIVERSITY'S INTERNAL MEDICINE RESIDENCY PROGRAM

ANU R. GUPTA, CAROLYN K. WELLS, RALPH I. HORWITZ, FRANK J. BIA, AND MICHELE BARRY
Department of Internal Medicine, Yale University School of Medicine, New Haven, Connecticut

Global Health: Career Impact?

- Experience in Internal Medicine (1982-1996) at Yale
 - 352 IM residents
 - 136 participants, 96 responded = 70.5%
 - 216 nonparticipants, 96 responded = 44.4%
- 54.5%
- Participants more likely to care for :
 - Patients on public assistance
 - Immigrant patients
 - Patients with HIV
 - Among IHP residents, 22 changed career choices to General Medicine
 - 20 cited the IH elective as the most important factor in the decision

Global Health: Why Here at Stanford?

- Stanford Medical School Class of 2013
 - 86 students were accepted to medical school out of 6,567 applicants
- The birthplace of these students spanned across 20 countries
- Dean Charles Prober's survey:
 - 60% of medical students had a one month or more global health experience
 - 80% of the medical students were interested in having a one month or longer overseas experience during medical school

Global Health: Why Here at Stanford?

- Stanford Traveling Scholar Program – 87 projects over 5 years in 36 countries
- Examples:
 - Effects of microlending on adherence to HAART for HIV patients in rural Kenya
 - Analysis of water hygiene behaviors and toxoplasmosis in Colombia
 - Overcoming the final barriers to polio eradication in Mexico

Global Health at Stanford

Global Gateway – www.global.stanford.edu

Explore our world.



Search faculty activities and research by country (104 projects)

Courtesy: Catherine Kristian

Global Health: Why Here?

Stanford's Unique Transdisciplinary Programs

Stanford-India Biodesign Fellowship

A unique program whose goal is to develop leaders in medical technology in India. This is a collaboration between Stanford Biodesign, Indian Institute of Technology Delhi and the All India Institute of Medical Sciences.

Fellows are immersed in clinical settings to identify >300 clinical needs. 1 or 2 device solutions are chosen to be developed, patented and commercialized in India.

(Paul Yock, Rajiv Doshi and Sakti Srivastava)

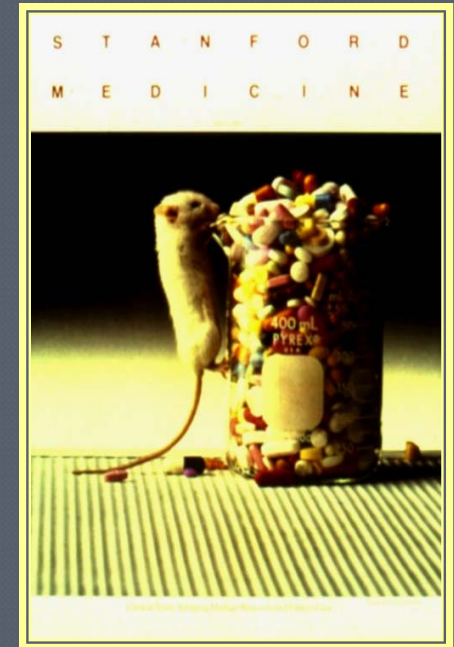


Global Health: Why Here?

Stanford's Unique Transdisciplinary Programs

SPARK Program:

- Brings together faculty from School of Medicine, Chemistry, Biology, Engineering, and Law with volunteers from local biotech industry and investment community
- Helps Stanford scientists translate early research discoveries into novel drugs and diagnostics.
- ~50% of programs target orphan or neglected diseases that cannot attract industry interest (e.g. point-of-care diagnostic test for tuberculosis)



(Kevin Grimes, Daria Mochly-Rosen)

Emergency Management Research Institute (EMRI)



S.V. Mahedevan, MD

Medical Director

Stanford Emergency Medicine

- Stanford SoM-MOU for first Emergency Management Institute in India
- Developed the first paramedical curriculum
- Trained the first class of paramedics (n=120) to international standards

- Developed visiting scholars program to teach specific skill sets
- Eventual hand-over of EMRI – “trained the trainers”
- Providing care now to 370 million people





Harvard Medical School
Philip Pizzo, MD

Harvard Medical School
Vishal K. Choudhary, MD

Philip Pizzo, MD
Harvard Medical School
Boston, MA

Yale/Stanford Global Health Scholars' Program



Yale University
School of Medicine



Liberia – JFK Medical Center

Eritrea – Orotta University

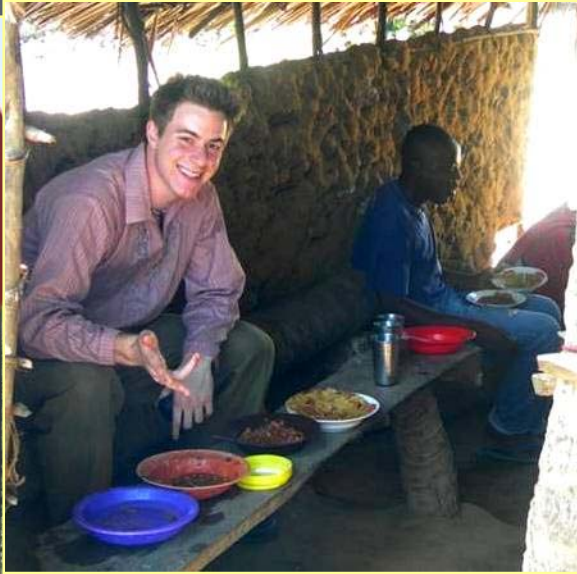
Uganda – Makerere University

Borneo – Alam Sehat Lestari (ASRI) Clinic

South Africa – Tugela Ferry



Global Health Faces at Stanford



Global Health at Stanford - Ideas

- Build upon Stanford's strengths: a school without a traditional public health school model – transdisciplinary initiatives
- Develop overseas and underserved community long-term partnerships in education, research and clinical service
- Seed innovative “disruptive technology” low-cost, grass-root, point of care, capacity building/legacy
- Evaluate systems approaches to global health initiatives
- Enable research and education to achieve MDGs and the missing MDGs agenda
- **ABOVE ALL: Maintain and model an ethos of social justice, health equity and mutuality of partnerships**

Gene Richardson, Medicine Intern

Gene Richardson has worked with **Partners in Health** (Peru), the **WHO** (Geneva), **Doctors Without Borders** (Sudan), and the **CDC** (Egypt).

His interests are in the areas of human rights and the social determinants of health.

Research projects include the molecular epidemiology of Dengue in Hawaii, MDR-TB in Peru, Avian Flu in Egypt, perinatal HIV in South Africa.



Paul Drain, 3rd Year Medicine Resident

Paul's Global Health experience includes **US Peace Corps** (Morocco), **University of Washington** (Kenya), **Harvard/NIH** (Tanzania) and **PATH** (Madagascar).

His interests are in the areas of promoting GH in medical education and HIV and TB clinical research.

Next summer, he will be starting an Infectious Disease Fellowship at Harvard.

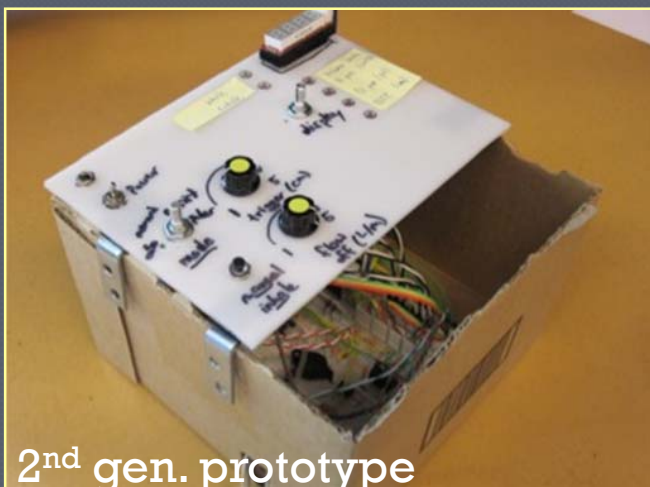
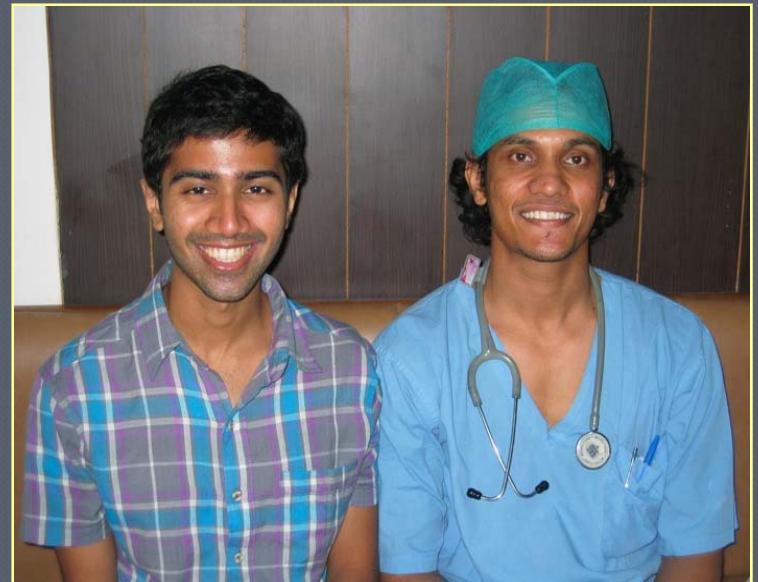


Dhruv Boddupalli, 2nd year Medical Student

Dhruv is working on a **low-cost ventilator for India** in Stanford Biodesign.

His interests are in the areas of health care delivery, medical devices and health policy for underserved communities.

Costs \$100 to produce



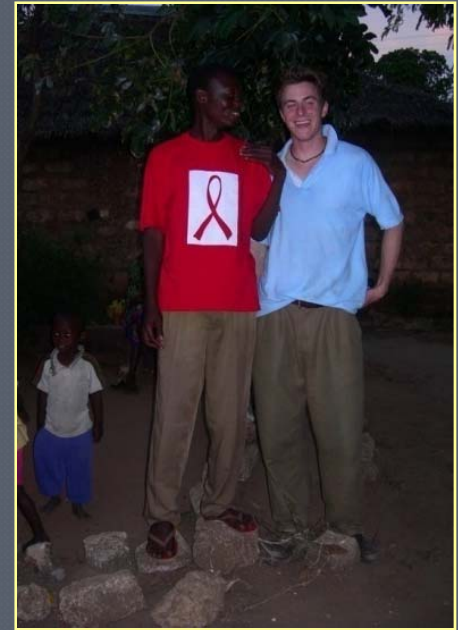
2nd gen. prototype

OneBreath

Eric Leroux, 2nd year Medical Student

Eric has worked in **Ecuador, Kenya,** and **South Africa.** He worked with **BroadReach Healthcare** and **Doctors Without Borders.**

He aspires to serve global health at the level of health systems.



Global health research projects include HIV/AIDS epidemiology in a Kenyan village, reductions in the price of HIV drugs with an economic argument for universal coverage.