Redefining Global Health Care
Narrowing the Gap Between Aspiration and Action

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Gaps in health financing, human resources, and access to care have fatal consequences for millions in developing countries.

- Millions of deaths from preventable & treatable causes
  - 6.3 million preventable childhood deaths
  - ½ million maternal deaths
  - 3 million HIV deaths – less than 1-in-8 on treatment
  - 2 million tuberculosis deaths
  - 1 million malaria deaths - mostly children

➤ Over 10 million needless deaths each year

...from conditions for which safe, effective, affordable prevention & treatment exist
the implementation bottleneck

- Vaccines
- Primary Health Care
- Drug Therapies
- Maternal and Child Health Care
- Basic Surgery
UNPRECEDENTED OPPORTUNITY

• Key leaders and institutions have recognized the gravity of global health problems

• Since 2001, over $85B in new funding for development

• 28x HIV/AIDS spending increase from $300M in 1996 to $8.5B

• Dramatic decline in treatment costs

• A golden era of funding for global health programs
Gates grants

$448M - new health technologies
$413M - HIV/AIDS vaccine
$258M - malaria vaccine
$165M - new malaria drugs
$124M - anti-HIV microbicides
$115M - diarrhea/nutrition
$106M - TB vaccines/diagnostics
the implementation bottleneck

- Vaccines
- Primary Health Care
- Drug therapies
- Maternal Child Health Care
- Basic Surgery

Gates Foundation develops:
- Microbicides and other preventive tools
- New malaria and TB drugs, diagnostics
- New combination therapies
- Drugs for neglected diseases
- >10 new vaccines
GLOBAL HEALTH “STRATEGY” TO DATE

- Countries and even districts working in isolation
- Project-based
  - Donor preference driven
  - Experimental pilots that never scale
- Competition among implementers
- Cottage industry approach
- Fragmentation of services
- Ineffective and not results oriented
- Absence of technology and measurement orientation
- Resources diverted for overhead and consultants

- Clear need for a better approach
REDEFINING GLOBAL HEALTH CARE

• Access is essential, but not enough

• The core issue in health care is the value of health care delivered

Value: Patient outcomes per dollar spent

• How to design health care systems that dramatically improve value

• Improving value is the means to achieving social justice
DEVELOPED WORLD AND RESOURCE-POOR SETTINGS SUFFER FROM SIMILAR DELIVERY PROBLEMS

<table>
<thead>
<tr>
<th>Current Model</th>
<th>New Model</th>
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</thead>
<tbody>
<tr>
<td>The product is treatment</td>
<td>The product is health</td>
</tr>
<tr>
<td>Measure volume of services (# tests, treatments)</td>
<td>Measure value of services (health outcomes per unit of cost)</td>
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<tr>
<td>Focus on specialties or types of practitioners</td>
<td>Coordinated and integrated care delivery</td>
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<tr>
<td>Discrete interventions</td>
<td>Care cycles</td>
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<tr>
<td>Individual disease stages</td>
<td>Sets of prevalent co-occurrences</td>
</tr>
<tr>
<td>Fragmentation of programs and entities</td>
<td>Care delivery system</td>
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<tr>
<td>Localized pilots and demonstration projects</td>
<td>A health system integrated across communities and regions</td>
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</tbody>
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A FRAMEWORK FOR GLOBAL HEALTH DELIVERY

III. External Influences on Care Delivery

II. Shared Delivery Infrastructure

I. Care Delivery Value Chain
   HIV/AIDS

Care Delivery Value Chain
   TUBERCULOSIS

Care Delivery Value Chain
   MATERNAL, PERINATAL CARE

Care Delivery Value Chain
   MALARIA

IV. Economic Development
# The Care Delivery Value Chain

## Informing and Engaging
- Patient education, patient counseling, pre-intervention educational programs, patient compliance monitoring and counseling
- (e.g. Patient education, patient counseling, pre-intervention educational programs, patient compliance monitoring and counseling)

## Accessing
- Office visits, lab visits, hospital sites of care, patient transport, visiting nurses or health workers, remote consultation
- (e.g. Office visits, lab visits, hospital sites of care, patient transport, visiting nurses or health workers, remote consultation)

## Measuring
- Tests, imaging, patient records management
- (e.g. Tests, imaging, patient records management)

## Monitoring/Preventing
- Medical history
- Screening
- Identifying risk factors
- Prevention programs
- e.g., Medical history
- Screening
- Identifying risk factors
- Prevention programs

## Diagnosing
- Medical history
- Organizing tests
- Interpreting data
- Consultation with experts
- Determining the treatment plan
- e.g., Medical history
- Organizing tests
- Interpreting data
- Consultation with experts
- Determining the treatment plan

## Preparing
- Choosing the team
- Pre-intervention preparations - pre-treatment
- e.g., Choosing the team
- Pre-intervention preparations - pre-treatment

## Intervening
- Ordering and administering drug therapy
- Performing procedures
- Performing counseling therapy
- e.g., Ordering and administering drug therapy
- Performing procedures
- Performing counseling therapy

## Recovering/Rehabilitating
- In-patient recovery
- Outpatient rehab
- Therapy fine-tuning
- Developing a discharge plan
- e.g., In-patient recovery
- Outpatient rehab
- Therapy fine-tuning
- Developing a discharge plan

## Monitoring/Managing
- Monitoring and managing the patient’s condition
- Monitoring compliance with therapy
- Monitoring lifestyle modifications
- e.g., Monitoring and managing the patient’s condition
- Monitoring compliance with therapy
- Monitoring lifestyle modifications

## Patient Value
- Health outcomes per unit of cost
HIV/AIDS CARE DELIVERY VALUE CHAIN: RESOURCE-POOR SETTINGS

INFORMING AND ENGAGING

MEASURING

ACCESSING

PREVENTION & SCREENING  DIAGNOSING & STAGING  DELAYING PROGRESSION  INITIATING ARV THERAPY  ONGOING DISEASE MANAGEMENT  MANAGEMENT OF CLINICAL DETERIORATION

(Patient Value
(Health outcomes per unit of cost))
IMPLICATIONS FOR HIV/AIDS CARE - I

- **Early diagnosis** helps in forestalling disease progression

- Intensive evaluation and treatment at time of diagnosis can **forestall disease progression**

- Improving **compliance** with first stage drug therapy lowers drug resistance and the need to move to more costly second line therapies
SHARED DELIVERY INFRASTRUCTURE

Shared Delivery Infrastructure

Care Delivery Value Chain
HIV/AIDS

Care Delivery Value Chain
TUBERCULOSIS

Care Delivery Value Chain
MATERNAL, PERINATAL CARE

Care Delivery Value Chain
MALARIA

Clinics, Community Health Workers, District Hospitals, Testing Labs, Tertiary Hospitals
IMPLICATIONS FOR HIV/AIDS CARE - II

• Screening is most effective when integrated into a primary health care system

• Improving maternal and child health care services is integral to the HIV/AIDS care cycle by substantially reducing the incidence of new cases of HIV

• Community health workers will be more cost effective when they coordinate care across multiple diseases

• Coordinated development of primary and secondary care infrastructure can improve the value of the HIV/AIDS care cycle while simultaneously improving value in the care of other diseases
INTEGRATING DELIVERY SYSTEM AND CONTEXT: EXTERNAL INFLUENCES ON CARE DELIVERY

I. Shared Delivery Infrastructure
   I. Care Delivery Value Chain
      HIV/AIDS
   II. Care Delivery Value Chain
       TUBERCULOSIS
   III. Care Delivery Value Chain
        MATERNAL, PERINATAL CARE
   IV. Care Delivery Value Chain
      MALARIA

II. Environmental Factors
   - Water & Sanitation
   - Access to Care Facilities
   - Health Awareness Education
   - Nutrition
INTEGRATING DELIVERY SYSTEM AND CONTEXT:
EXTERNAL INFLUENCES ON CARE DELIVERY
IMPLICATIONS FOR HIV/AIDS CARE - III

- Management of **social** and **economic barriers** is critical to the treatment and prevention of HIV/AIDS
  - Financial barriers to access (e.g. transportation, missed work hours)
  - Unreliable methods of communication
  - Poor nutrition
  - Lack of education
  - Gender inequality
  - Social stigma of disease
CASE EXAMPLE: RWANDA

Prevention Testing

Diagnosis Staging

Delaying progression

Initiating ART

Disease Management

Managing Deterioration
THE RELATIONSHIP BETWEEN HEALTH SYSTEMS AND ECONOMIC DEVELOPMENT

Better Health Enables Economic Development

- Ability to work
- Higher productivity

Better Health Systems Foster Economic Development

- Employment (health sector and related jobs)
- Procurement, if sourced locally
- Infrastructure (e.g. cell towers, internet, and electrification)
Facilities were rehabilitated...

Before

After
Summary of detailed unit costing, extrapolated to a full district

100% = US$ 4.7 million in ‘steady state’ (2011)

Estimated ‘catchment’ area of unit

100% = 265,000

Methodology:
Theoretical catchment area + Patients coming from other areas (based on survey)
- Overlaps between centres
= Actual population served

~25 US$/Capita
~7000 US$/Capita

New Sites/Capital investment (14%)
Labour, excl. accompagnateurs (32%)
Labour, accompagnateurs only (5%)
Outpatient Nutritional Support (5%)
Supplies (28%)
Social (education, housing, mutuelles, micro-finance, etc.)
Transport/Communication
Building/Infrastructure
Referrals
Administration

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Mismatch in Skills Taught and Skills Needed

Bachelor’s
- No defined degree program in global health
- Broad liberal arts courses on social or basic science
- Field-work on an ad-hoc basis

MPH
- Focus on quantitative methodology and research
- Population-level interventions
- Field-work on an ad-hoc basis

MBA/MPA
- Private/public management emphasis
- Little discussion of work in resource-poor settings
- No education of health science

MD
- Focus on clinical and basic science
- Little education on health care delivery or public health issues
- Focus on single-patient interventions

No or extremely limited focus on health care delivery
Is there a place for a new field in health research and education?

Basic Science

What is the pathophysiology?

Clinical Science

What is the appropriate intervention?

Evaluation Sciences

Does the intervention work?
Is there a place for a new field in health research and education?

Basic Science

What is the pathophysiology?

Clinical Science

What is the diagnosis and appropriate intervention?

Healthcare Delivery Science

How do we best deliver the intervention to everyone?

Evaluation Science

Does the intervention and delivery model work?
Vision for Global Health Delivery

- Value
- Social Justice

Care Delivery Value Chains

Shared Delivery Infrastructure

External Factors

Health System Impact on Economic Development
AN OPPORTUNITY FOR HARVARD TO LEAD

Develop a Global Health Delivery Framework

Create Innovation Centers

[Better] Healthcare Outcomes

Educate Leaders

Launch Communities of Practice
Communities of Practice: Progress to Date

Guides and materials shared with community of health practitioners

Interactive site invites feedback from users
To create and nurture a community of the best people committed to leadership in alleviating human suffering caused by disease.”

HARVARD MEDICAL SCHOOL MISSION STATEMENT