Redefining Global Health Care

Narrowing the Gap Between Aspiration and Action

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WHO: COMMISSION ON MACROECONOMICS AND HEALTH

8 Million deaths per year could be averted with programs for which we have effective interventions to prevent and treat several diseases

-HIV/AIDS
-TB
-Malaria
-Childhood Infectious Disease
-Maternal and Perinatal Conditions
-Tobacco-related Illness
-Micronutrient Deficiencies

Source: Table 2, Commission Report 2003

DISPROPORTIONATE IMPACT, DIRE CONSEQUENCES

MALARIA

Most Diseases
Disproportionately Affect the

President Bush announces plan to increase PEPFAR funding to $30 billion

and

The Need for Effective Solutions is Great

DEADLY FAILURES IN DELIVERY

"There is a gap between today's scientific advances and their application: between what we know and what is actually being done…Action without knowledge and knowledge without action means wasted resources and missed opportunities."

Dr. Jong-wook Lee
Director General of the World Health Organization
2003-2006

THE UNITED STATES EXPERIENCE

	Aspiration	Action
Beta blockers within 24 hours of admission with chest pain	100%	69%
Antibiotic administered within 8 hours of admission with pneumonia	100%	87%
Mammography at least every 2 years	100%	60%
Fundoscopic examination for diabetic retinopathy	100%	70%

Source: Jencks et al analysis of Medicare data, *JAMA,* 2003

SMALL POX AND POLIO

	Aspiration	Action
Small Pox	0 new cases	0 new cases
Polio	0 new cases	1593 new cases

Source: World Health Organization Data

UNPRECEDENTED OPPORTUNITY

- Key leaders and institutions have recognized the gravity
- 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**

NEW CHALLENGES

Increasing funding will allow…

- program innovation
- A move from small projects to large scale implementation
- greater impact on the health of populations
- a focus on a wider range of diseases

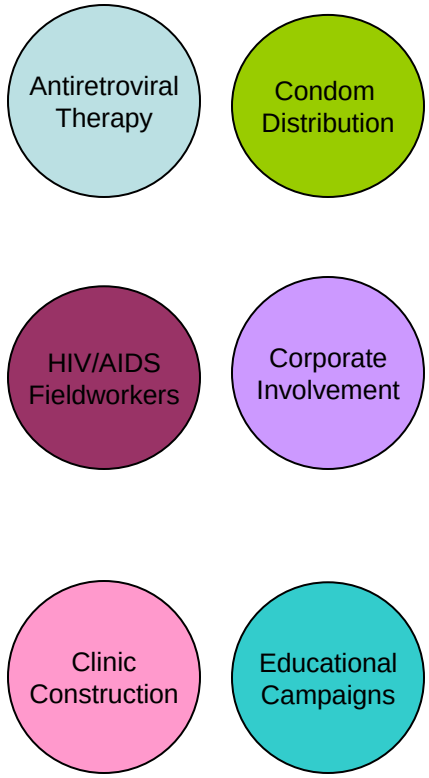
…but requires thoughtful new leadership to

- manage resources effectively
- close the “know-do” gap
- create administrative efficiencies, reduce resource consumption, reduce supply costs, and improve quality
- **Create high value delivery models**

GLOBAL HEALTH "STRATEGY" TO DATE

- Countries working in isolation of each other
- Project-based
  - Donor preferences
  - Scarcity of resources
  - Experimental pilots
- Ineffective and Non-results oriented
  - Absence of technology and measurement orientation

- **Clear need for a better approach**

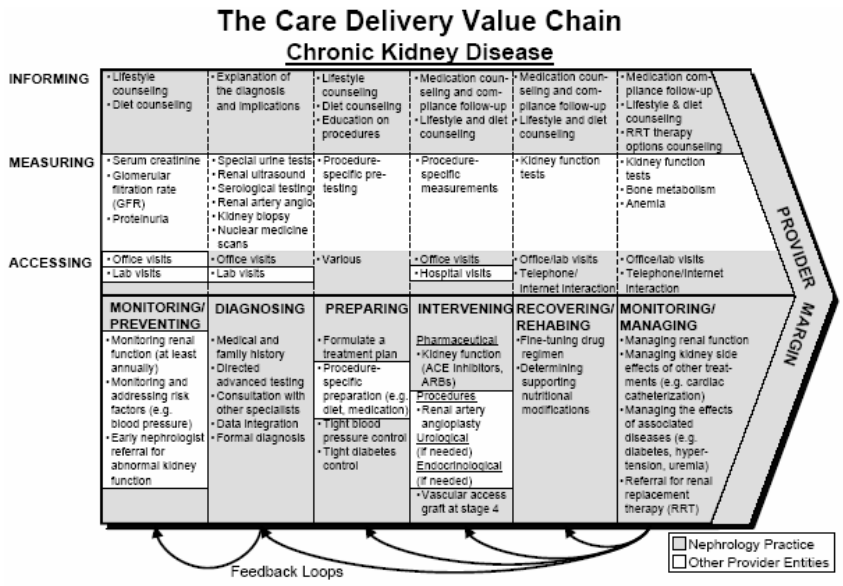


A NEW PARADIGM

- The need for holistic framework that incorporates all activities and actors contributing to global health outcomes at a medical condition level

- **Value = Health outcomes per dollar spent**

- Porter and Teisberg's concept of a "care delivery value chain"

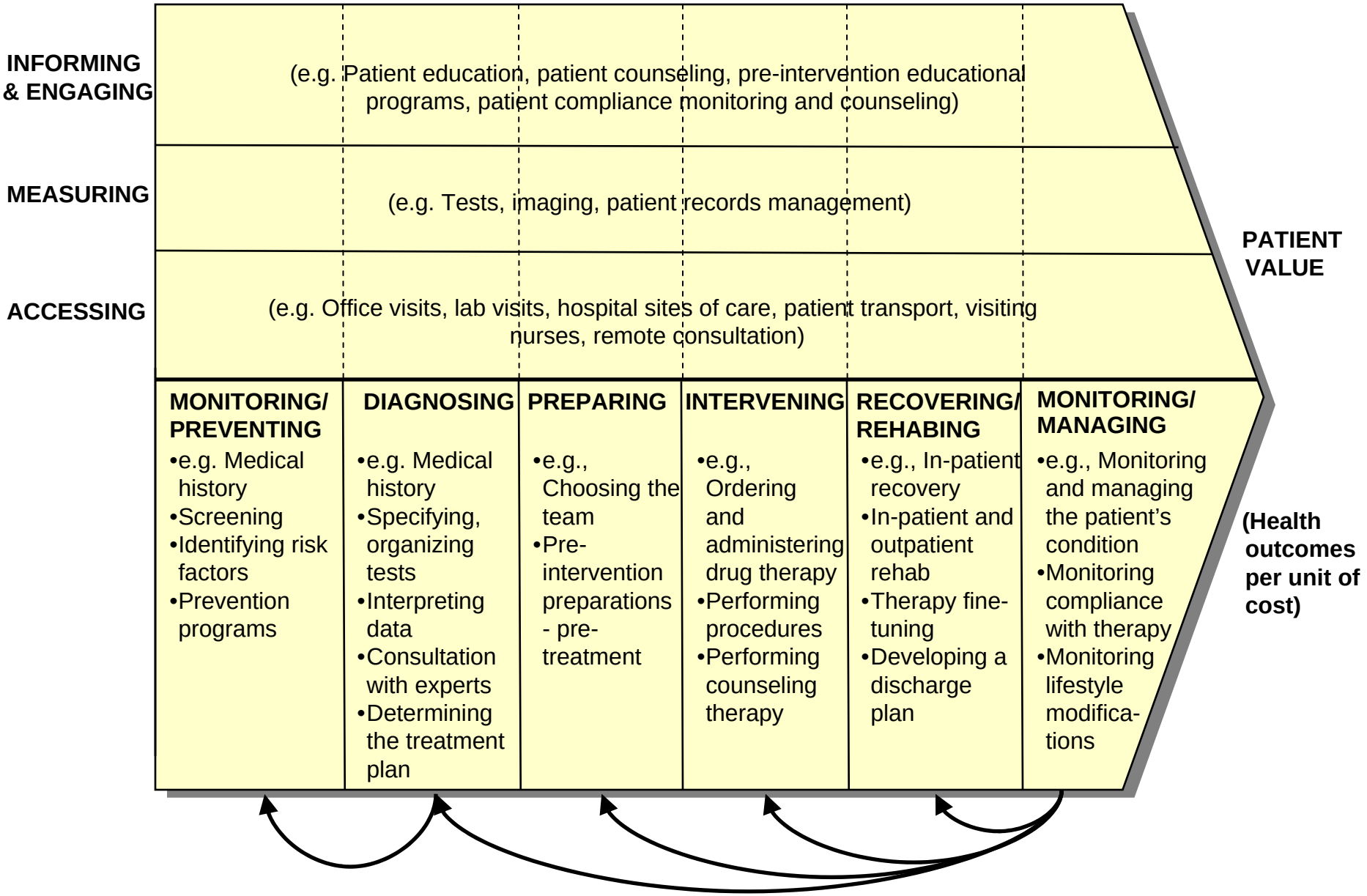


- **Allows careful examination of all activities of care delivery system and more thoughtful deployment of resources**

DEVELOPED WORLD AND RESOURCE-POOR SETTINGS SUFFER FROM SIMILAR DELIVERY PROBLEMS

• The product is treatment	⇨	The product is health
• Volume of services (# tests, treatments)	⇨	Value of services (health outcomes per unit of cost)
• Specialties	⇨	Integrated care
• Discrete interventions	⇨	Care cycles
• Individual disease stages	⇨	Sets of prevalent co-occurrences
• Fragmentation of entities and programs	⇨	Integrated care delivery organizations
• Stand alone facilities	⇨	Facilities networks

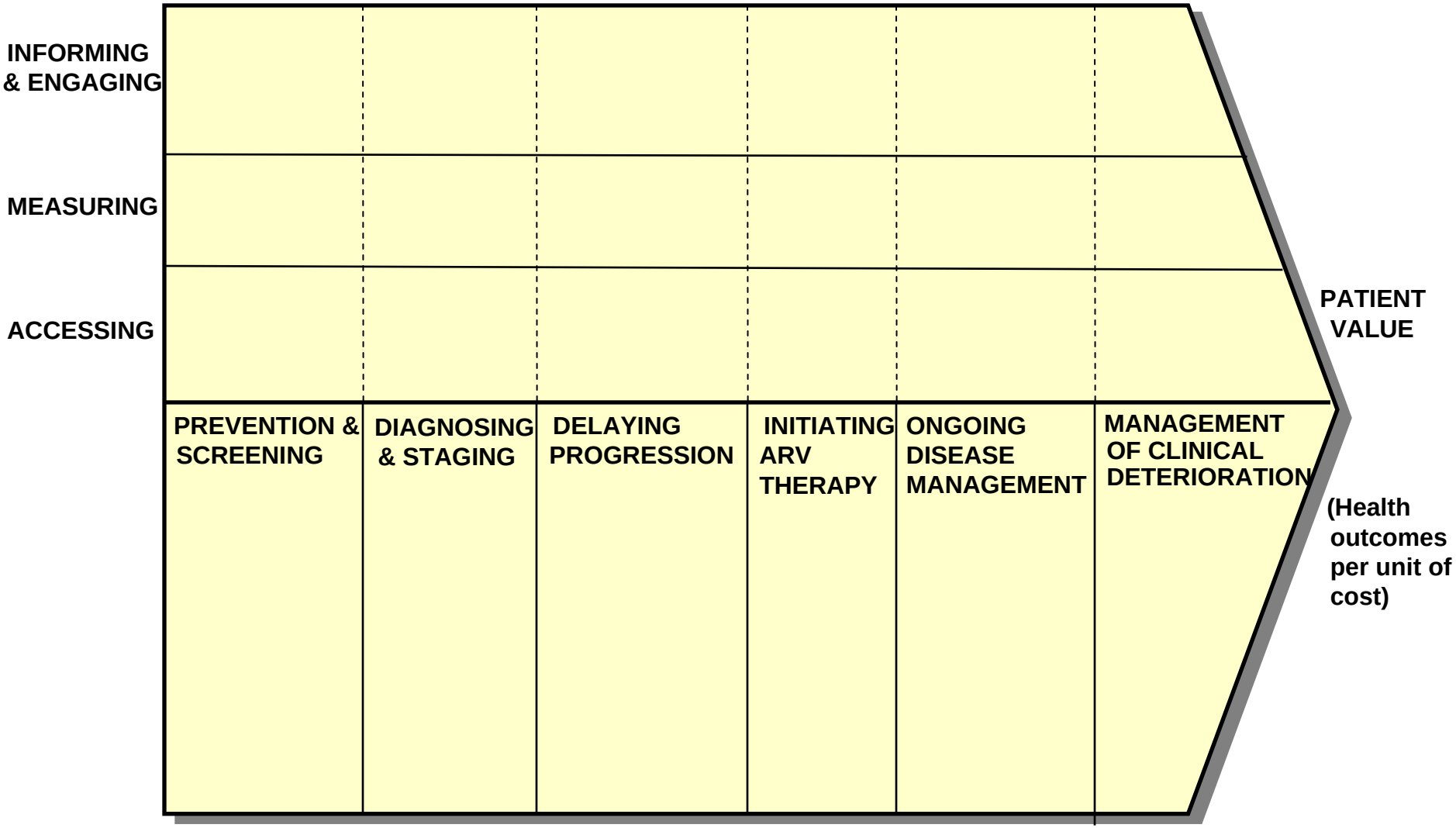
THE CARE DELIVERY VALUE CHAIN



ANALYZING THE CARE DELIVERY VALUE CHAIN

1. Are the **set of activities** and the **sequence of activities** in the CDVC aligned with value?
2. Is the appropriate **mix of skills** brought to bear on each activity and across activities, and do individuals work as a **team**?
3. Is there **appropriate coordination** across the discrete activities in the care cycle, and are handoffs seamless?
4. Is care structured to **harness linkages** (optimize overall allocation of effort) across different parts of the care cycle?
5. Is the **right information** collected, integrated, and utilized across the care cycle?
6. Are the activities in the CDVC performed in **appropriate facilities and locations**?
7. What provider departments, units and groups are involved in the care cycle? Is the provider's **organizational structure** aligned with value?
8. What are the **independent entities** involved in the care cycle, and what are the relationships among them? Should a provider's **scope of services** in the care cycle be expanded or contracted?

HIV/AIDS CARE DELIVERY VALUE CHAIN



HIV/AIDS CARE DELIVERY VALUE CHAIN

PREVENTION & SCREENING	DIAGNOSING & STAGING	DELAYING PROGRESSION	INITIATING ARV THERAPY	ONGOING DISEASE MANAGEMENT	MANAGEMENT OF CLINICAL DETERIORATION
•Identify high-risk individuals •Promote appropriate risk reduction strategies •Modify behavioral risk factors •Connect patients with primary care system •Create a medical record •Test at-risk individuals	•Formal diagnosis and staging •Determine method of transmission •Identify others at risk •Screen for TB, syphilis, and other sexually transmitted diseases •Pregnancy testing and contraceptive counseling •Create a management plan, including scheduling of follow-up visits •Formulate a treatment plan	•Initiate therapies that can delay onset, including vitamins and food supplements •Treat co-morbidities that affect progression of disease, especially tuberculosis •Improve patient awareness of disease progression, prognosis, and transmission •Connect patient to care team, including community health workers	•Initiate comprehensive antiretroviral therapy and assess medication readiness •Prepare patient for side effects of treatment •Manage secondary infections and associated illnesses	•Primary care and maintenance •Manage effects of associated illnesses •Manage side effects of treatment •Determine supporting nutritional modifications	•Identify clinical and laboratory deterioration •Initiate second-line, third-line drug therapies •Manage acute illness and opportunistic infection either through aggressive outpatient management or hospitalization •Provide additional community/social support if needed •Prepare patient for end-of-life management •Provide access to hospice care

HIV/AIDS CARE DELIVERY VALUE CHAIN

	PREVENTION & SCREENING	DIAGNOSING & STAGING	DELAYING PROGRESSION	INITIATING ARV THERAPY	ONGOING DISEASE MANAGEMENT	MANAGEMENT OF CLINICAL DETERIORATION
INFORMING & ENGAGING	•Prevention counseling on modes of transmission, risk factors	•Explanation of diagnosis and implications •Explaining course of HIV and prognosis	•Explanation of approach to forestalling progression	•Explanation of medication instructions and side effects	•Counseling about adherence; understanding factors for non-adherence	•Explanation of co-morbid diagnoses and implications •End-of-life counseling
MEASURING	•HIV testing •Screening for TB and, if indicated, STIs •Collect baseline demographics	•HIV testing for others at risk •Clinical examination, CD4+ count, and other labs •Testing for common co-morbidities, i.e., STI, TB, and pregnancy screening	•CD4+ count monitoring (continuous staging) •Continuous assessment of co-morbidities •Regular clinical exams to assess for disease progression •Socioeconomic and nutrition assessment	•CD4+ count monitoring (continuous staging) •Regular primary care assessment •HIV testing for others at risk •Lab evaluation for medication initiation	•HIV staging and medication response •High frequency primary care assessments •Assessing/ managing complications of therapy •HIV testing for others at risk •Lab evaluations	•HIV staging and medication response •Regular primary care assessment •Lab evaluation
ACCESSING	•Meeting patients in high-risk settings •Primary care clinics •Testing centers	•Primary care clinics •On-site labs at primary care clinics •Testing centers	•Primary care clinics •Labs (on-site at primary clinics) •Pharmacy •Food centers •Community health workers/home visits •Support groups	•Primary care clinics •Labs (on-site at primary clinics) •Pharmacy •Community health workers/home visits •Support groups	•Primary care clinics •Pharmacy •Labs (on-site at primary clinics) •Community health workers/home visits •Support groups	•Primary care clinics •Pharmacy •Labs (on-site at primary clinics) •Community health workers/home visits •Hospitals and hospice facilities •Support groups •Food centers

IMPLICATIONS FOR HIV/AIDS CARE

- Screening is most effective when **integrated into a primary health care system**
- Intensive evaluation and treatment at time of diagnosis can **forestall disease progression**
- **Early diagnosis** helps in forestalling disease progression
- Improving maternal and child health care services is integral to the HIV/AIDS care cycle through **substantially reducing the incidence of new cases** of HIV
- Coordinated development of **primary care infrastructure** can improve the value of the HIV/AIDS care cycle while simultaneously improving value in the care of other diseases

HOW DO WE STUDY COMPLEX STRATEGY PROBLEMS?

- Develop **theoretical principles** about the underlying phenomenon
- Employ a mix of **quantitative** and **qualitative** analysis
- Conduct in-depth **field research** focused on the role of organizational leaders and their choices
- Careful study of numerous **case studies** spanning multiple settings and encompassing both success and failure
- Develop **frameworks** that can be applied prospectively to guide practice
- Intensive interaction with **practitioners** to disseminate concepts and refine implementation in specific country settings

CASE EXAMPLE: RWANDA

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Prevention
Testing

Diagnosis
Staging

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Disease
Management

Managing
Deterioration

CASE EXAMPLE: RWANDA

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Delaying progression

Initiating ART

Disease Management

Managing Deterioration

CASE EXAMPLE: RWANDA

Initiating ART

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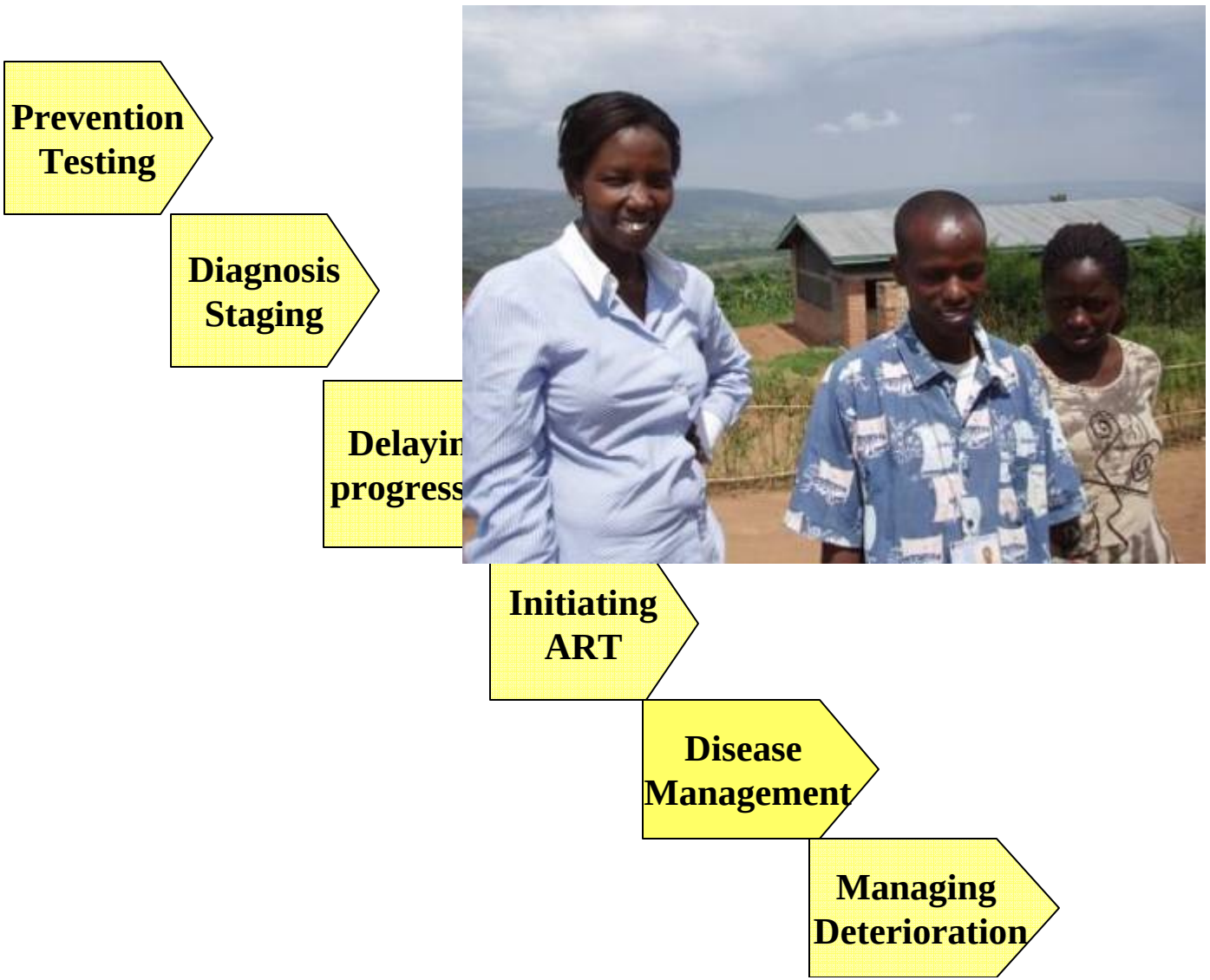
CASE EXAMPLE: RWANDA



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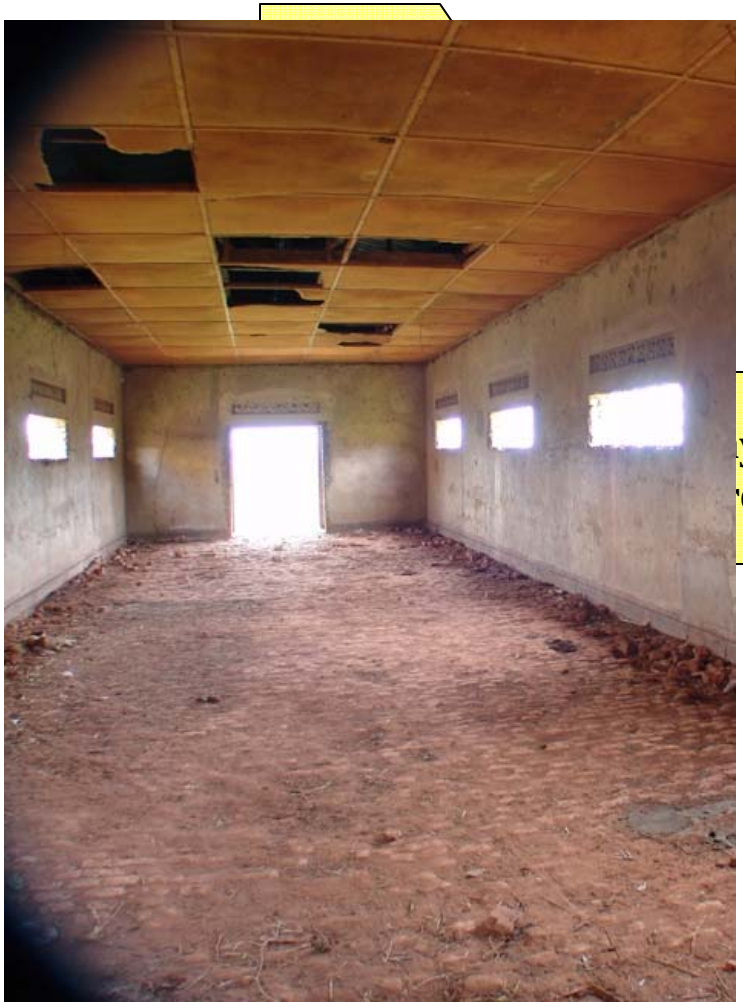

ART

Disease Management

Managing Deterioration

EVALUATE HOW THE SEQUENCE OF ACTIVITIES IS ALIGNED WITH VALUE

- Are there coordination and linkages across activities?
- How are human resources deployed?
- How are facilities and organizational structures arranged to create value?
- How is information shared across activities?

COORDINATION AND LINKAGES ACROSS ACTIVITIES

Prevention
Testing

Disease
Management

EVALUATE HOW THE SEQUENCE OF ACTIVITIES ARE ALIGNED WITH VALUE

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HOW ARE HUMAN RESOURCES DEPLOYED?

EVALUATE HOW THE SEQUENCE OF ACTIVITIES ARE ALIGNED WITH VALUE

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FACILITIES ARRANGED TO CREATE VALUE

- Governments (not NGOs) can ensure the right to services.
- Building the public health infrastructure and education system (not private clinics and schools) will best serve the public and allow the right to health care and education.
- Integrated HIV programs can increase uptake of vaccinations, family planning, and improve primary health care in the public sector

EVALUATE HOW THE SEQUENCE OF ACTIVITIES ARE ALIGNED WITH VALUE

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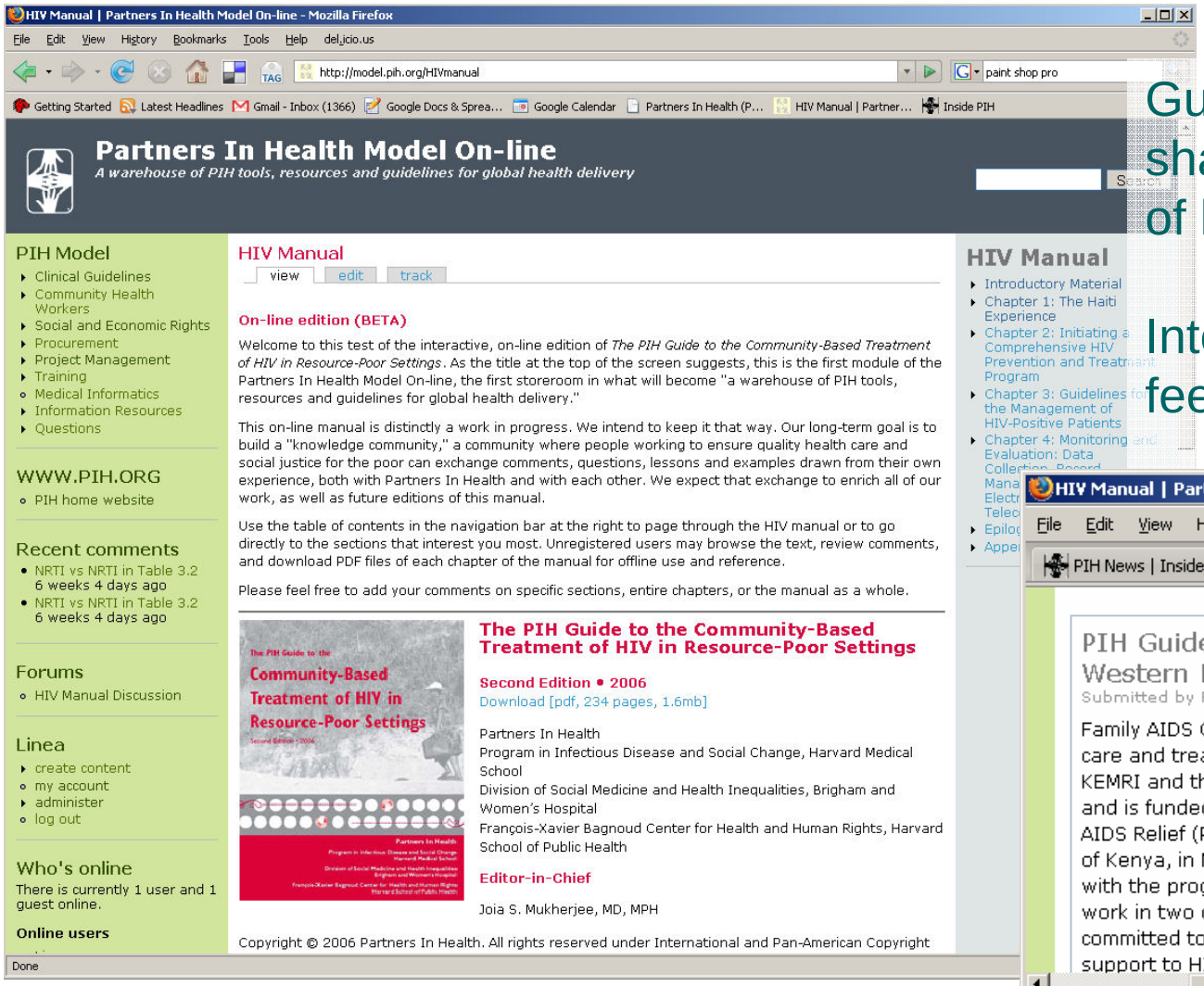
IS2

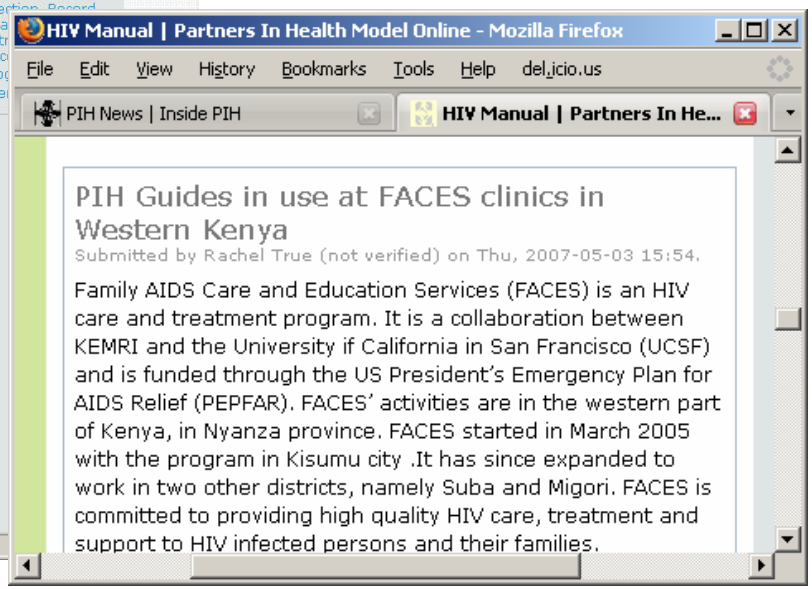
Communities of Practice: Progress to Date

Community of Practice among Partners in Health Network



Guides and materials shared with community of health practitioners

Interactive site invites feedback from users

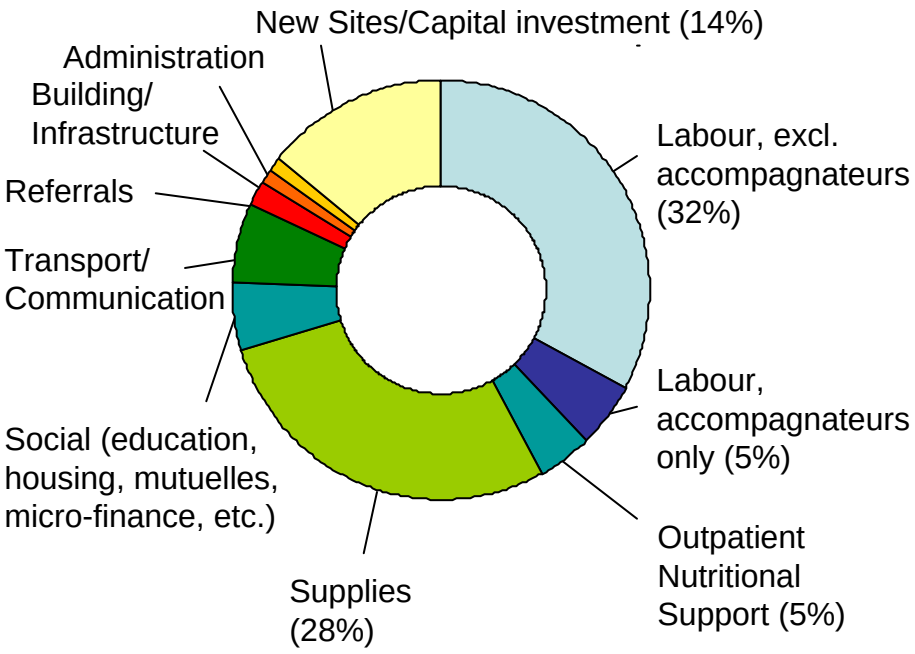


Before

After

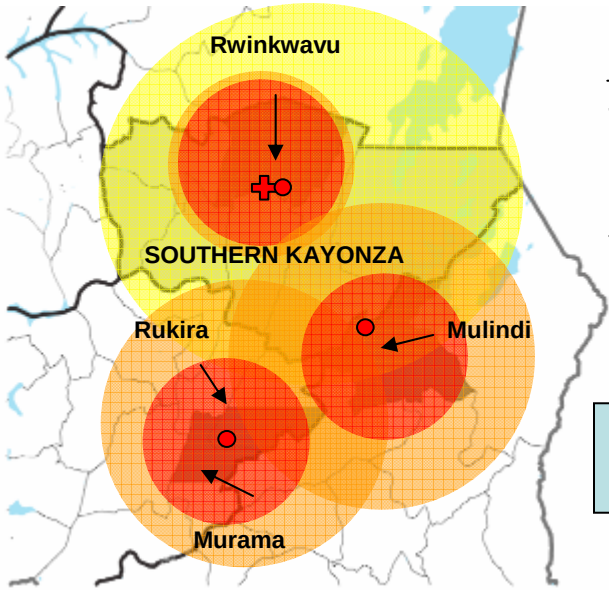
Summary of detailed unit costing, extrapolated to a full district

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

~18 US$

~6000 US$/Capita

PARTNERS IN HEALTH: RESULTS

- ***Haiti***
  - Over 1 million patient visits in clinics in 2005
  - More than 9500 HIV patients monitored with over 2200 on ART
- ***Peru***
  - More than 2000 people treated for MDR-TB
  - Trained over 4000 healthcare workers in MDR-TB management in 2005
- ***Rwanda***
  - Projects sites serve over 350,000 people
  - Over 1800 on ART, 100 more each month

AN OPPORTUNTIY FOR HARVARD TO LEAD

- There is a deadly gap between what we know and what we do
- Millions of lives can potentially be saved even without new technology, but simply by doing what we know better
- There is an urgent need for a new science of healthcare delivery that helps global health practitioners implement effective solutions
- Harvard University is uniquely positioned and qualified to promote this new discipline