Redefining Global Health Care Delivery

Narrowing the Gap Between Aspiration and Action

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Unprecedented Opportunity







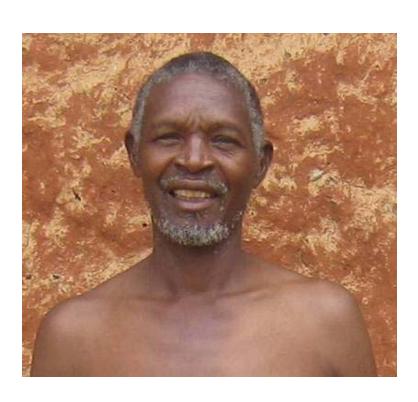




- Key leaders and institutions have recognized the gravity of global health problems
- Since 2001, over \$85B in new funding for development
- 28x HIV/AIDS spending increase from \$300M in 1996 to \$8.5B
- Dramatic decline in treatment costs
- A golden era of funding for global health programs

Case Example: Rwanda

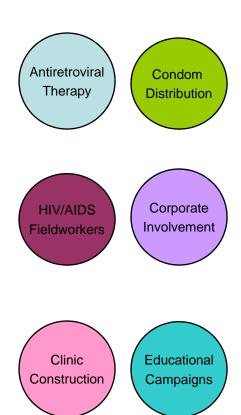


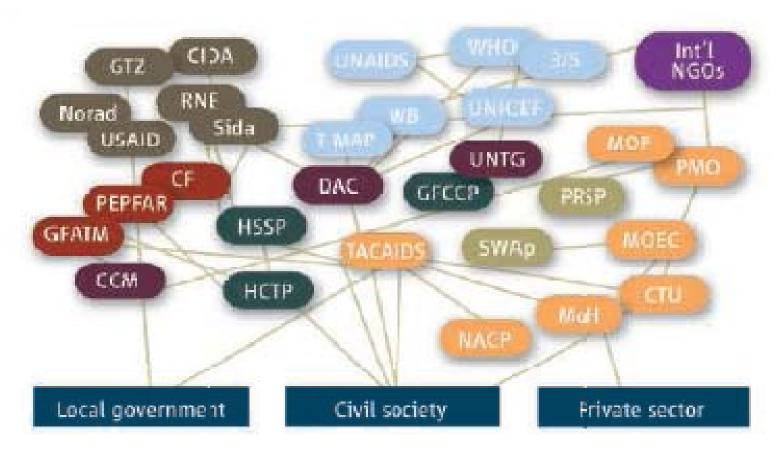


Global Health "Strategy" to Date

- 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
- Absence of results and measurement
- Resources often diverted for overhead and consultants

Clear need for a better approach





Relationships Between Various Stakeholders in Tanzania

United Nations Coordinating committees

Bilateral aid Plans and programs

Drug-delivery programs IMF/World Bank

Tanzanian government Nongovernmental organizations

Redefining Global Health Care

- Universal coverage is essential, but not enough
- The core issue in health care is the value of health care delivered

Value: Patient health outcomes per dollar spent



- How to design a health care system that dramatically improves value
- How to create a dynamic system that keeps rapidly improving

1. The goal should be **value for patients**, not volume of services or cost reduction

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- 2. The best way to contain costs is to improve quality

Quality = Health outcomes

- Prevention
- Early detection
- Right diagnosis
- Early and timely treatment
- Treatment earlier in the causal chain of disease
- Right treatment to the right patients
- Fewer delays in the care delivery process
- Fewer mistakes and repeats in treatment
- Fewer complications

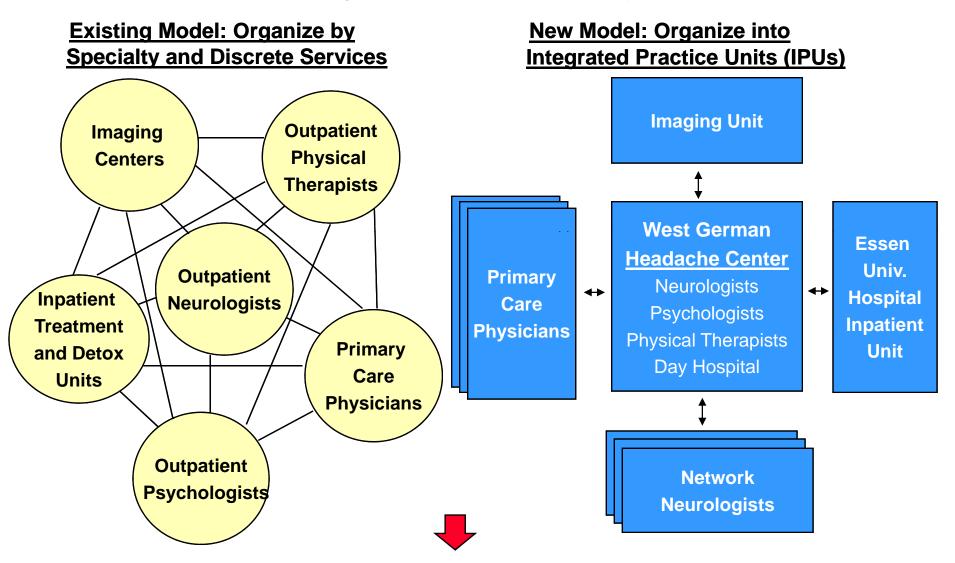
- Less invasive treatment methods
- Faster recovery
- More complete recovery
- Less disability
- Fewer relapses or acute episodes
- Slower disease progression
- Less need for long term care



Better health is inherently less expensive than poor health

- The goal should be value for patients, not volume of services or cost reduction
- 2. The best way to contain costs is to improve quality
- 3. Health care delivery should center on **medical conditions** over the **full cycle of care**

Restructuring Health Care Delivery <u>Migraine Care in Germany</u>



Organize around the patient over the cycle of care, not the specialist/intervention/department

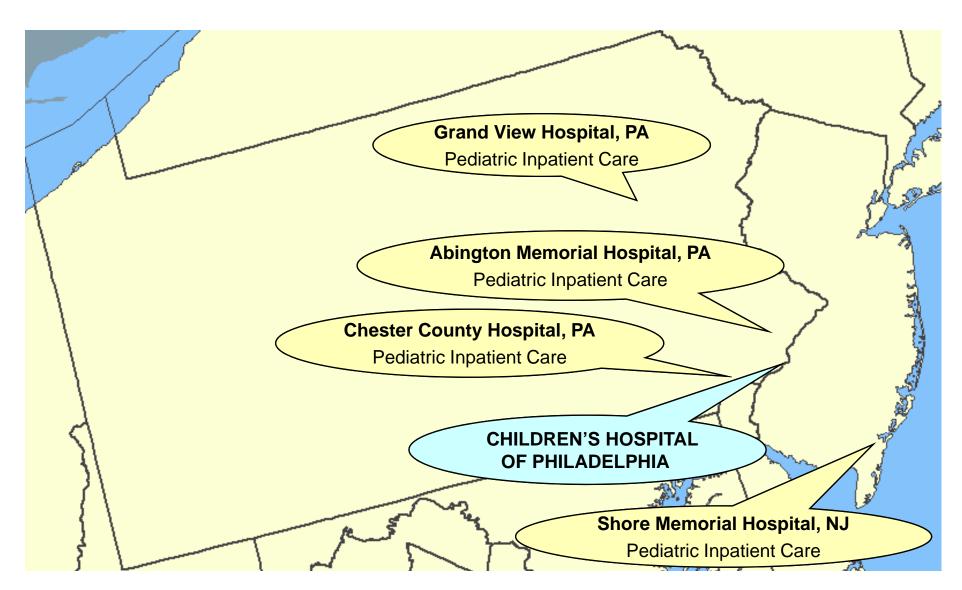
Care Delivery Value Chain Breast Cancer

INFORMING & ENGAGING MEASURING ACCESSING	Advice on self screening Consultation on risk factors Self exams Mammograms Office visits Mammography lab visits	Counseling patient and family on the diagnostic process and the diagnosis Mammograms Ultrasound MRI Biopsy BRACA 1, 2 Office visits Lab visits High-risk clinic visits	patient choices of treatment •Achieving compliance	treatment and prognosis Achieving compliance Procedure-specific measurements • Hospital stay • Visits to outpatient or radiation	Counseling on rehabilitation options, process Achieving compliance Range of movement Side effects measurement Office visits Rehabilitation facility visits	Counseling on long term risk management Achieving compliance Recurring mammograms (every 6 months for the first 3 years) Office visits Lab visits Mammographic labs and imaging center visits
	MONITORING/ PREVENTING • Medical history • Control of risk factors (obesity, high fat diet) • Genetic	• Medical history • Determining the specific nature of the disease • Genetic	• Medical counseling • Surgery prep (anesthetic risk assessment,	• Surgery (breast preservation or mastectomy, oncoplastic alternative)	• In-hospital and outpatient wound healing • Psychological counseling	MONITORING/ MANAGING Periodic mammography Other imaging Follow-up clinical exams Treatment for any continued side
	screening • Clinical exams • Monitoring for lumps	evaluation • Choosing a treatment plan	Patient and family psychological counseling Plastic or oncoplastic surgery evaluation	Adjuvant therapies (hormonal medication, radiation, and/or chemotherapy)	Treatment of side effects (skin damage, neurotoxic, cardiac, nausea, lymphodema and chronic fatigue) Physical therapy	effects
Primary care providers are often the beginning and end of the care cycle						☐ Breast Cancer Specialist☐ Other Provider Entities

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- The goal should be value for patients, not volume of services or cost reduction
- 2. The best way to contain costs is to improve quality
- Health care delivery should center on medical conditions over the full cycle of care
- 4. Health care delivery should be **integrated across facilities and regions**, rather than take place in stand-alone units

Managing Care Across Geography The Children's Hospital of Philadelphia (CHOP) Affiliations



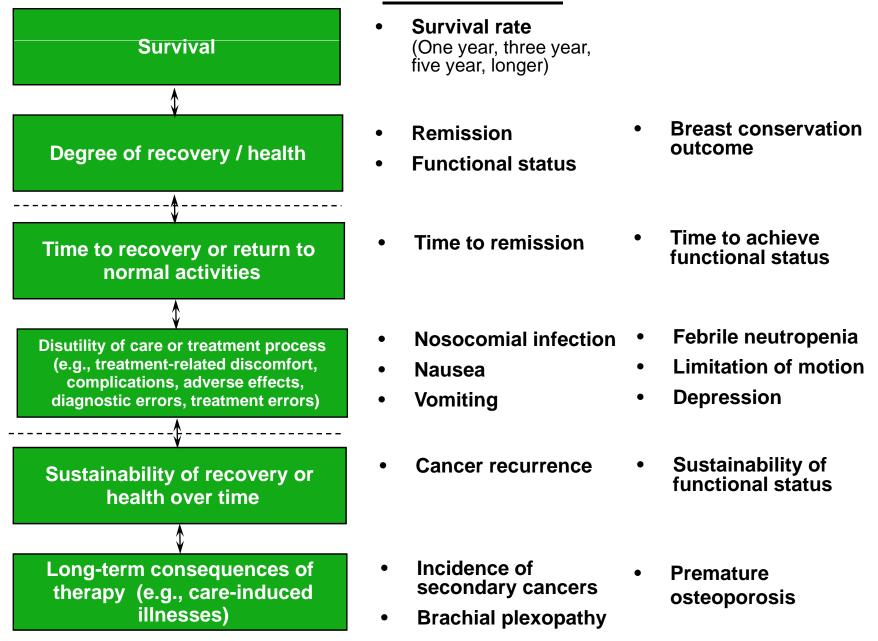
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- Health care delivery should be integrated across facilities and regions, rather than take place in stand-alone units
- 5. Value must be **measured** and **reported**

Value: Patient health outcomes
Total cost of achieving
those outcomes

Measuring Value Care Cycle vs. Discrete Interventions

INFORMING 8 ENGAGING MEASURING	Advice on self screening Consultation on risk factors Self exams Mammograms	Counseling patient and family on the diagnostic process and the diagnosis Mammograms Ultrasound MRI Biopsy BRACA 1, 2	patient choices of treatment	treatment and prognosis	Counseling on rehabilitation options, process Achieving compliance Range of movement Side effects measurement	Counseling on long term risk management Achieving compliance Recurring mammograms (every 6 months for the first 3 years)
ACCESSING	Office visits Mammography lab visits	Office visits Lab visits High-risk clinic visits	Office visits Hospital visits	Hospital stay Visits to outpatient or radiation chemotherapy units	Office visits Rehabilitation facility visits	Offlice visits Lab visits Mammographic labs and imaging center visits
	MONITORING/ PREVENTING • Medical history • Control of risk factors (obesity, high fat diet) • Genetic screening • Clinical exams • Monitoring for lumps	Medical history Determining the specific nature of the disease Genetic evaluation Choosing a treatment plan	Medical counseling Surgery prep (anesthetic risk assessment, EKG) Patient and family psychological counseling Plastic or oncoplastic surgery evaluation	Surgery (breast preservation or mastectomy, oncoplastic alternative) Adjuvant therapies (hormonal medication, radiation, and/or chemotherapy)	RECOVERING/ REHABING • In-hospital and outpatient wound healing • Psychological counseling • Treatment of side effects (skin damage, neurotoxic, cardiac, nausea, lymphodema and chronic fatigue) • Physical therapy	MONITORING/MANAGING • Periodic mammography • Other imaging • Follow-up clinical exams • Treatment for any continued side effects Breast Cancer Specialist
			4	<u></u>		Other Provider Entities

The Outcome Measures Hierarchy Breast Cancer



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- 5. Value must be measured and reported
- Reimbursement should be aligned with value and reward innovation
 - Bundled reimbursement for care cycles, not discrete treatments or services
 - Most DRG systems are too narrow
 - Reimbursement for prevention and screening, not just treatment
 - Reimbursement for overall management of chronic conditions
 - Reimbursement adjusted for patient complexity

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- 7. Information technology enables restructuring of care delivery and measuring results
 - Common data definitions
 - Interoperability standards
 - Patient-centered database
 - Includes all types of data (e.g. notes, images)
 - Cover the full care cycle, including referring entities
 - Accessible to all involved parties

Developed World and Resource-Poor Settings Suffer from Similar Delivery Problems

Current Model

- The product is treatment
- Measure volume of services (# tests, treatments)
- Focus on specialty services or types of practitioners
- Discrete interventions
- Individual disease stages
- Fragmentation of programs and entities
- Localized pilots and demonstration projects

New Model

- The product is health
- Measure value of services (health outcomes per unit of cost)
- Coordinated and integrated care delivery
- Care cycles
 - Sets of prevalent cooccurrences
 - Integrated care delivery systems
 - Systems that are integrated across communities and regions

Emerging Framework for Global Health Delivery

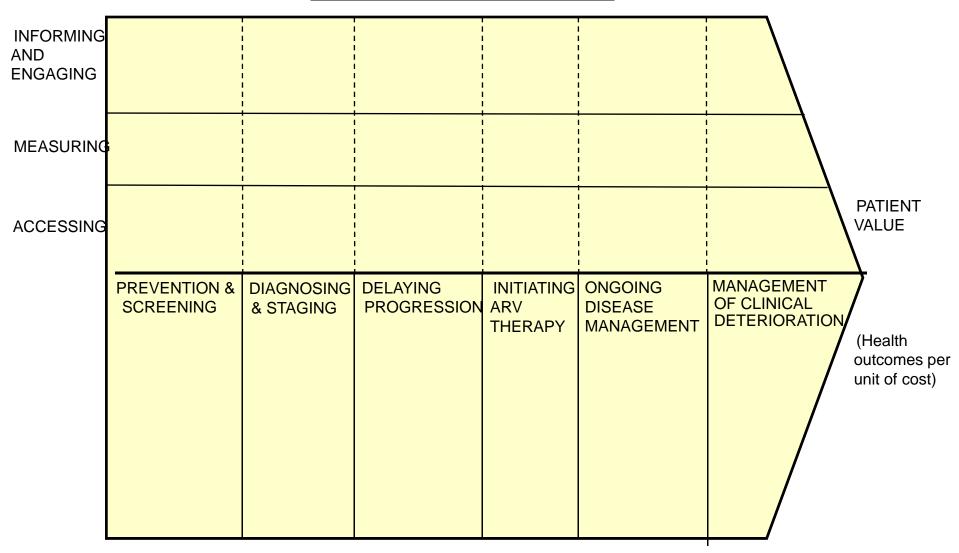
- I. Care delivery value chains for medical conditions
- II. Shared delivery infrastructure
- III. External context of resource-poor settings



IV. Health system impact on economic development

HIV/AIDS Care Delivery Value Chain

Resource-Poor Settings



The Care Delivery Value Chain HIV/AIDS

INFORMING & ENGAGING	Prevention counseling on modes of transmission on risk factors	Explaining diagnosis and implications Explaining course and prognosis of HIV	Explaining approach to forestalling progression	Explaining medical instructions and side effects	Counseling about adherence; understanding factors for non- adherence	Explaining co-morbid diagnosesEnd-of-life counseling	
MEASURING	HIV testingTB, STI screeningCollecting baseline demographics	HIV testing for others at risk CD4+ count, clinical exam, labs	Monitoring CD4+ Continuously assessing co- morbidities	Regular primary care assessments Lab evaluations for initiating drugs	• Managing	• HIV staging, response to drugs • Regular primary care assessments	PATIENT VALUE
ACCESSING	 Meeting patients in high-risk settings Primary care clinics Testing centers 	Primary care clinics Clinic labs Testing centers	Primary care clinics Food centers Home visits	Primary care clinicsPharmacySupport groups	Primary care clinics Pharmacy Support groups	Primary care clinics Pharmacy Hospitals, hospices	
	PREVENTION & SCREENING • Connecting patient with primary care • Identifying high-risk individuals • Testing at-risk individuals • Promoting appropriate risk reduction strategies • Modifying behavioral risk factors • Creating medical records	• Formal diagnosis, staging • Determining method of transmission • Identifying others at risk • TB, STI screening • Pregnancy testing, contraceptive counseling • Creating treatment plans	DELAYING PROGRESSION Initiating therapies that can delay onset, including vitamins and food Treating comorbidities that affect disease progression, especially TB Improving patient awareness of disease progression, prognosis, transmission Connecting patient with care team	INITIATING ARV THERAPY • Initiating comprehensive ARV therapy, assessing drug readiness • Preparing patient for disease progression, treatment side effects • Managing secondary infections, associated illnesses	ONGOING DISEASE MANAGEMENT • Managing effects of associated illnesses • Managing side effects • Determining supporting nutritional modifications • Preparing patient for end-of-life management • Primary care, health maintenance	MANAGEMENT OF CLINICAL DETERIORATION Identifying clinical and laboratory deterioration Initiating second- and third-line drug therapies Managing acute illnesses and opportunistic infectior through aggressive outpatient management or hospitalization Providing social support Access to hospice care	(Health outcomes per unit of cost)

Analyzing the Care Delivery Value Chain

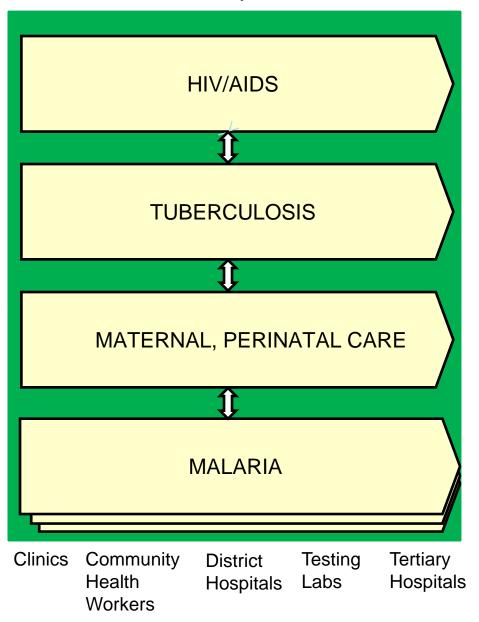
- 1. Are the **set of activities** and the **sequence of activities** in the CDVC aligned with value?
- 2. Is the appropriate **mix of skills** brought to bear on each activity and across activities, and do individuals work as a **team**?
- 3. Is there **appropriate coordination** across the discrete 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?

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



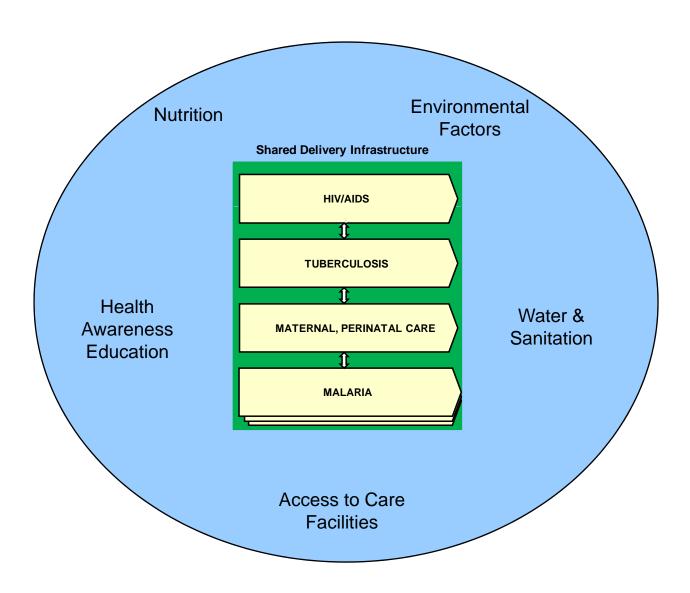
Implications for HIV/AIDS Care - II

- 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 not only improve compliance with ARV therapy but can simultaneously address other conditions

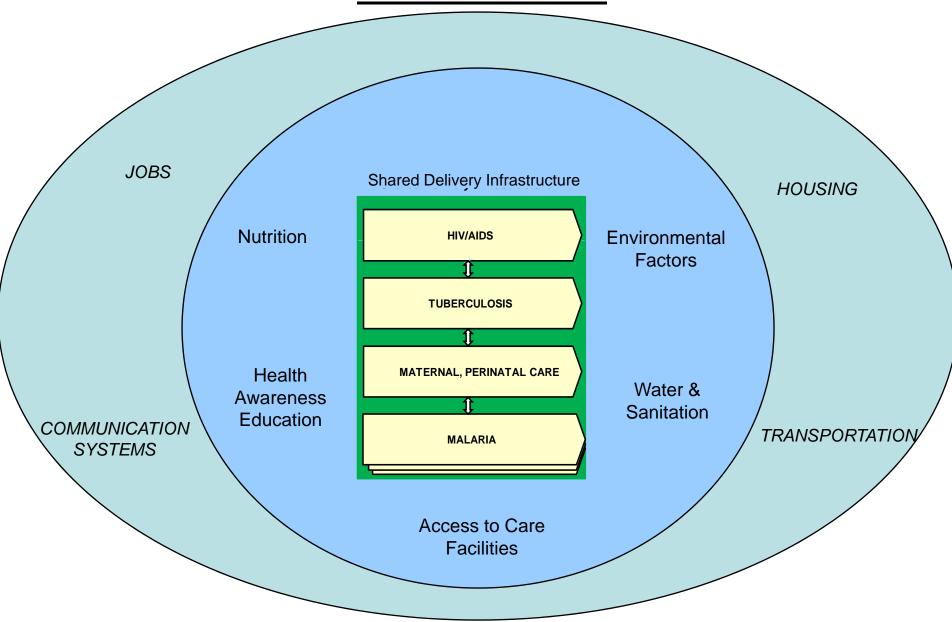


 Coordinated development of primary and secondary care infrastructure can improve the value of the HIV/AIDS care cycle while simultaneously improving value in the care of other diseases

Integrating Delivery and Context Close-In Factors



Integrating Delivery and Context Farther-Out Factors



Implications for HIV/AIDS Care - III

- Community health workers can have a major role in overcoming transportation and other barriers to access and compliance with care
- Providing nutrition support can be important to success in ARV therapy
- Gender dynamics limit the use of certain preventive options in some settings
- Integrating HIV screening and treatment into routine primary care facilities can help address the social stigma of seeking care for HIV/AIDS



 Management of social and economic barriers is critical to the treatment and prevention of HIV/AIDS

The Relationship Between Health Systems and Economic Development

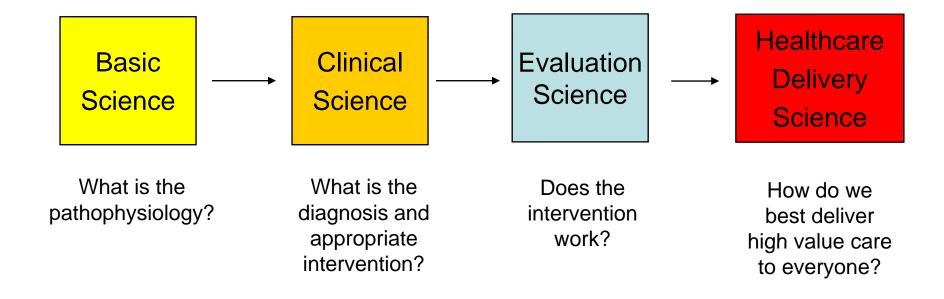
Better Health Enables Economic Development

- Enables people to work
- Raises productivity

Better Health Systems Foster Economic Development

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

Is There a Place for a New Field in Health Research and Education?



An Opportunity for Harvard to Lead

