# Redefining Health Care Delivery: Implications for Global Health

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April 2, 2009

This presentation draws on Michael E. Porter and Elizabeth Olmsted Teisberg: Redefining Health Care: Creating Value-Based Competition on Results, Harvard Business School Press, May 2006, and "How Physicians Can Change the Future of Health Care," Journal of the American Medical Association, 2007; 297:1103:1111. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means — electronic, mechanical, photocopying, recording, or otherwise — without the permission of Michael E. Porter and Elizabeth Olmsted Teisberg. Further information about these ideas, as well as case studies, can be found on the website of the Institute for Strategy & Competitiveness at <a href="http://www.isc.hbs.edu">http://www.isc.hbs.edu</a>.

### **Redefining Health Care Delivery**

- Universal coverage and access to care are 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
  - Ownership of entities is secondary (e.g. non-profit vs. for profit vs. government)
- How to create a dynamic system that keeps rapidly improving

### Creating a Value-Based Health Care System

 Significant improvement in value will require fundamental restructuring of health care delivery, not incremental improvements

Today, 21<sup>st</sup> century medical technology is delivered with 19<sup>th</sup> century organization structures, management practices, and pricing models

- TQM, process improvements, safety initiatives, pharmacy management, and disease management overlays are beneficial but not sufficient to substantially improve value
- Consumers cannot fix the dysfunctional structure of the current system

### **Harnessing Competition on Value**

- Competition is a powerful force to encourage restructuring of care and continuous improvement in value
  - Competition for patients
  - Competition for health plan subscribers
- Today's competition in health care is not aligned with value

Financial success of system participants

Patient success



 Creating competition to improve value is a central challenge in health care reform

## Zero-Sum Competition in U.S. Health Care

#### **Bad Competition**

- Competition to shift costs or capture more revenue
- Competition to increase bargaining power and secure discounts or price premiums
- Competition to capture patients and restrict choice
- Competition to restrict services in order to maximize revenue per visit or reduce costs



Zero or Negative Sum

#### **Good Competition**

Competition to increase value for patients



- Set the goal as value for patients
  - Not volume
  - Not access
  - Not equity
  - Not cost reduction
  - Not "profit" in the current system

Value = Health outcomes

Costs of delivering the outcomes



- Outcomes are the full set of health outcomes achieved by the patient
- Costs are the total costs, including costs not necessarily borne by any one provider or even within the health care system

- Set the goal as value for patients
- The best way to improve value and contain cost is to improve quality, where quality is health outcomes
  - Prevention of disease
  - Early detection
  - Right diagnosis
  - Early and timely treatment Faster recovery
  - Right treatment to the right patients
  - Treatment earlier in the causal chain of disease
  - Rapid care delivery process with fewer delays
  - Less invasive treatment methods

- Fewer complications
- Fewer mistakes and repeats in treatment
- More complete recovery
- Less disability
- Fewer relapses or acute episodes
- Slower disease progression
- Less need for long term care
- Less care induced illness



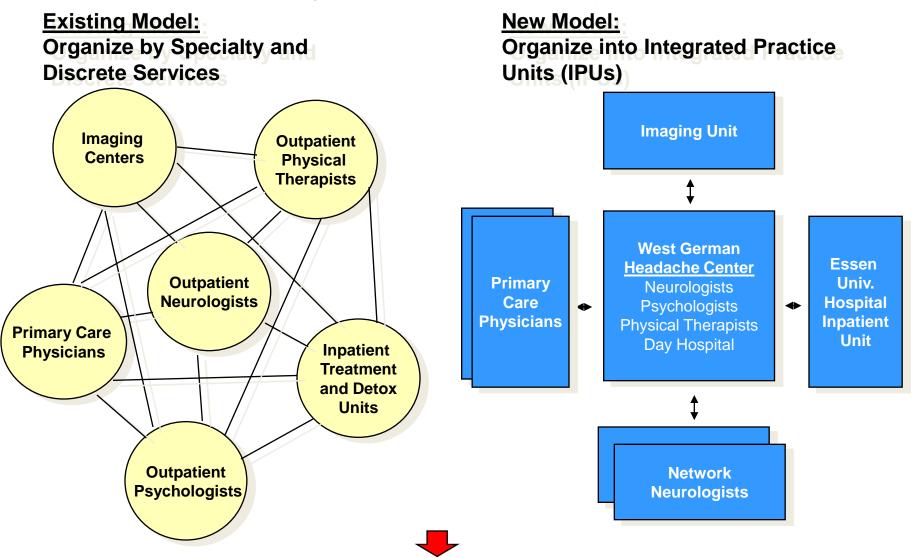
- Better health is the goal, not more treatment
- Better health is **inherently less expensive** than poor health

- Set the goal as value for patients
- The best way to improve value and contain cost is to improve quality, where quality is health outcomes
- To maximize value health care delivery must be organized around medical conditions over the full cycle of care
  - A medical condition is an interrelated set of patient medical circumstances best addressed in an integrated way
    - Defined from the patient's perspective
    - Includes the most common co-occurring conditions
    - Involving multiple specialties and services



 The medical condition is the unit of value creation in health care delivery

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



The health plan was crucial to this transformation

# The Cycle of Care Breast Cancer

NFORMING & ENGAGING	Advice on self screening     Consultation on risk factors	patient and family on the diagnostic process and the diagnosis	Explaining patient choices of treatment Patient and family psychological counseling	the treatment process Achieving compliance	Counseling on rehabilitation options, process Achieving compliance Psychological counseling	compliance \
	Self exams     Mammograms	Mammograms Ultrasound MRI Biopsy BRACA1, 2		Procedure- specific measurements	Range of movement Side effects measurement	Recurring mammograms (every 6 months for the first 3 years)
CCESSING	Office visits     Mammography     lab visits	Office visits Lab visits High-risk clinic visits		Hospital stay Visits to outpatient or radiation chemotherapy units	Office visits Rehabilitation facility visits	• Office visits     • Lab visits     • Mammographic labs     and imaging center     visits
	MONITORING/ PREVENTING	DIAGNOSING	PREPARING	INTERVENING	RECOVERING/ REHABING	MONITORINGI MANAGING
	<ul> <li>Medical history</li> <li>Control of risk factors (obesity, high fat diet)</li> <li>Genetic</li> </ul>	Determining the specific nature a of the disease	Surgery prep (anesthetic risk assessment, EKG)	<ul> <li>Surgery (breast preservation or mastectomy, oncoplastic alternative)</li> </ul>	In-hospital and outpatient wound healing Treatment of side effects (e.g. skin	MONITORING/ MANAGING  Periodic mammography Other imaging Follow-up clinical exams Treatment for any
	screening Clinical exams Monitoring for lumps	evaluation • Choosing a treatment plan	Plastic or onco- plastic surgery evaluation	<ul> <li>Adjuvant therapies (hormonal medication, radiation, and/or chemotherapy)</li> </ul>	damage, cardiac complications, nausea, lymphodema and chronic fatigue) • Physical therapy	continued side effects

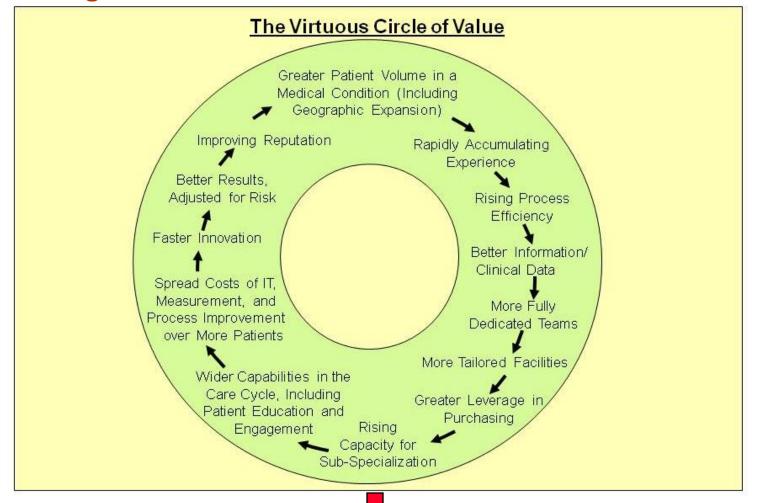
### **Integrated Care Delivery Includes the Patient**

- Value in health care is co-produced by patients and clinicians
- Unless patients comply with care and treatment plans and take steps to improve their health, even the best delivery team will fail
- For chronic care, patients are often the best experts on their own health and personal barriers to compliance
- Today's fragmented system creates obstacles to patient education, involvement, and adherence to care
- Simply forcing consumers to pay more is a false solution



IPUs will improve patient engagement

4. Value is enhanced by increasing provider experience, scale, and learning at the medical condition level



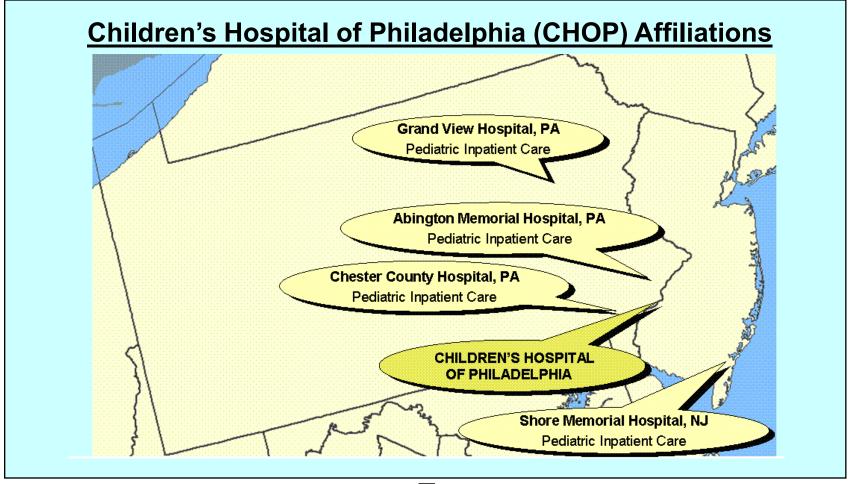
• The virtuous circle extends across geography when care for a medical condition is integrated across locations

# Fragmentation of Hospital Services <u>Sweden</u>

Procedure	Number of hospitals performing the treatment (of 116)	Average number of procedures per provider per year	Average number of procedures per provider per month
Heart transplants	3	13	1.1
Cardiac valve procedures with cardiac catheter	5	11	0.9
Coronary bypass with cardiac catheter	6	56	4.7
Cleft lip and palate repair	8	67	5.6
Splenectomy, Age >7	39	4	0.3
Total Mastectomy (without complications)	66	45	3.8
Iguinal & femoral hernia procedures, Age >17 (without complications)	67	47	3.9

Source: Compiled from The National Board of Health and Welfare Statistical Databases - DRG Statistics, Accessed September 27, 2007.

5. Care should be **integrated across facilities** and **across regions**, rather than duplicate services in stand-alone units

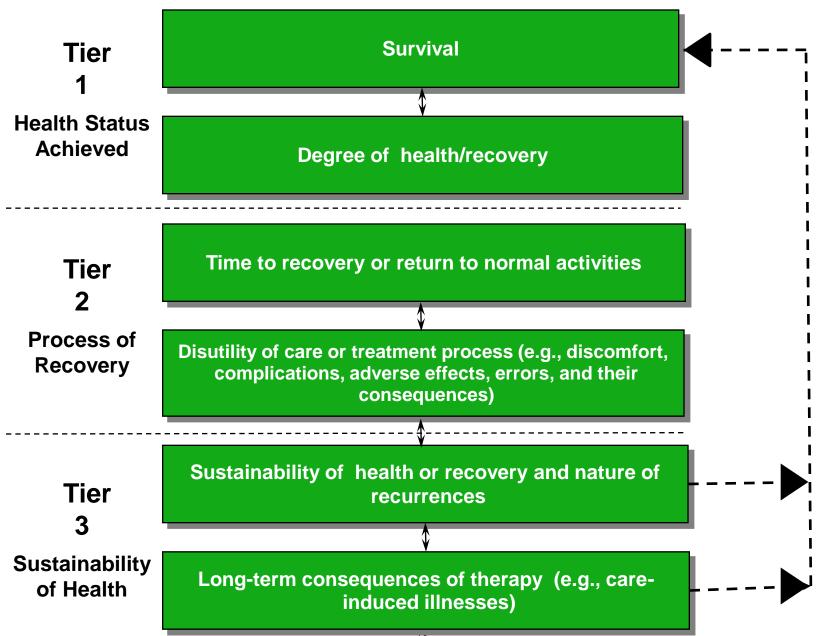




Excellent providers can manage care delivery across multiple geographies

- 1. Set the goal as value for patients
- The best way to improve value and contain cost is to improve quality, where quality is health outcomes
- 3. To maximize value, health care delivery must be organized around medical conditions over the full cycle of care
- 4. Drive value improvement by increasing provider **experience**, **scale**, and **learning** at the **medical condition level**
- 5. Care should be **integrated across facilities** and **across regions**, rather than duplicate services in stand-alone units
- 6. **Measure** and **report** outcomes for every provider for every medical condition
  - For medical conditions over the cycle of care
    - Not for interventions or short episodes
    - Not for practices, departments, clinics, or hospitals
    - Not separately for types of service (e.g. inpatient, outpatient, tests, rehabilitation)
  - Results should be measured at the level at which value is created

#### The Outcome Measures Hierarchy



## **Swedish Obesity Registry Indicators**

#### **Initial Conditions**

- Demographics (age, sex, height, weight, BMI, waist circumference etc)
- Baseline labs HbA1c (a measure of long-term blood glucose control),
   Triglycerides, Low Density Lipoprotein (bad cholesterol), High Density
   Lipoprotein (good cholesterol) Comorbidities (sleep apnea, diabetes, depression, etc)
- SF-36/OP-9 (validated quality of life measures)

#### **Surgery**

- Background (Previous surgeries, anesthesia risk class)
- Operation type and concurrent operations (gall bladder removal, appendix removal, etc)
- Perioperative complications
- Surgery data (surgery/anesthesia times, blood loss, etc)
- 6 week follow-up

Source: SOReg: Swedish National Obesity Registry

#### 6-week follow-up

- Length of stay
- <30d surgical complications (bleeding, leakage, infection, technical complications, etc)
- <30d general complications (blood clot, urinary infection, etc)</p>
- Other operations required (gall bladder, plastic surgery, etc)
- Repetition of anthropometric measurements (height, weight, waist, BMI, and change from initial)
- Diabetes labs (HbA1c)

#### 1,2 & 5-year follow-up

- Anthropometrics and change from initial
- Labs (diabetes, triglycerides & cholesterol)
- Comorbidities, and ongoing treatments
- Delayed complications of operation (hernia, ulcer, treatment related malnutrition or anemia, etc)
- Other surgeries since registration
- SF-36/OP-9 (validated quality of life measures)

Source: SOReg: Swedish National Obesity Registry

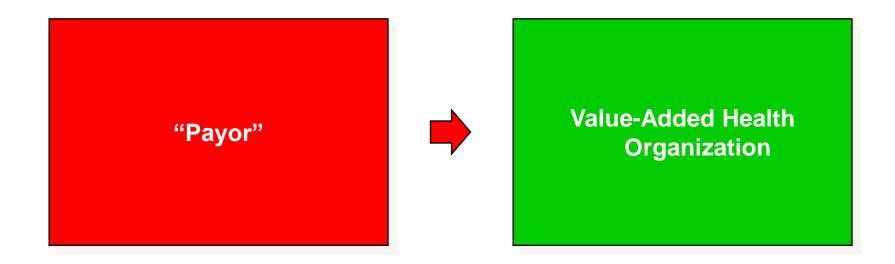
- 1. Set the goal as value for patients, not containing costs
- 2. The best way to improve value and contain cost is to **improve quality**, where quality is health **outcomes**
- Reorganize health care delivery around medical conditions over the full cycle of care
- 4. Drive value improvement by **increasing** provider **experience**, **scale**, and **learning** at the **medical condition level**
- 5. Care should be **integrated across facilities** and **across regions**, rather than duplicate services in stand-alone units
- 6. Value must be **measured** and ultimately **reported** by every provider for each medical condition
- 7. Reimbursement must be aligned with **value** and reward **innovation** 
  - Bundled reimbursement for care cycles, not payment for discrete treatments or services
    - Most DRG systems are too narrow
    - Adjusted for patient complexity
  - Time base bundled reimbursement for managing chronic conditions
  - Reimbursement for prevention and screening service bundles, not just treatment



 Providers and health plans must be proactive in driving new reimbursement models, not wait for government

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- 7. Reimbursement must be aligned with value and reward innovation
- 8. Information technology can enable **restructuring of care delivery** and **measuring results**, but is not a solution by itself
  - Common data definitions
  - Precise interoperability standards
  - Patient-centered data warehouse
  - Include all types of data (e.g. notes, images)
  - Cover the full care cycle, including referring entities
  - Accessible to all involved parties
  - Templates for medical conditions

# Value-Based Healthcare Delivery: Implications for Health Plans



# 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 facilities, specialties or types of practitioners
- Discrete interventions
- Individual diseases
- Fragmented programs and entities
- Localized pilots and demonstration projects

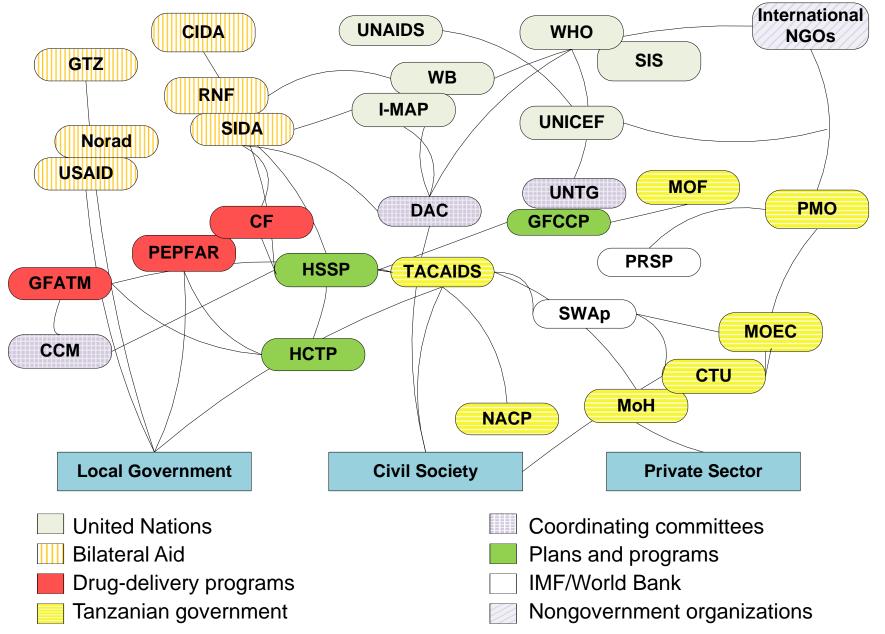
#### New Model



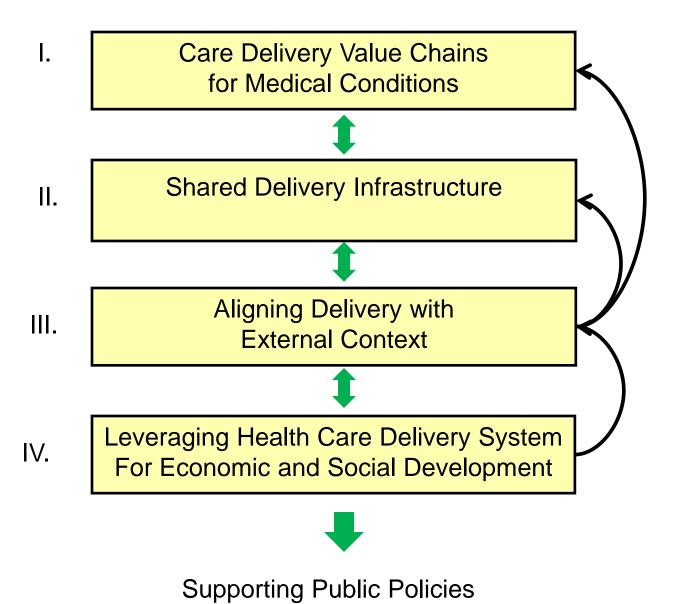
- The product is health
- Measure value of services (health outcomes per unit of cost)
- Coordinated and integrated care delivery
- Care cycles
- Sets of prevalent cooccurrences
- Integrated care delivery systems

Integrated systems across communities and regions

#### Relationships Between Various Stakeholders in Tanzania



#### A Framework for Global Health Delivery



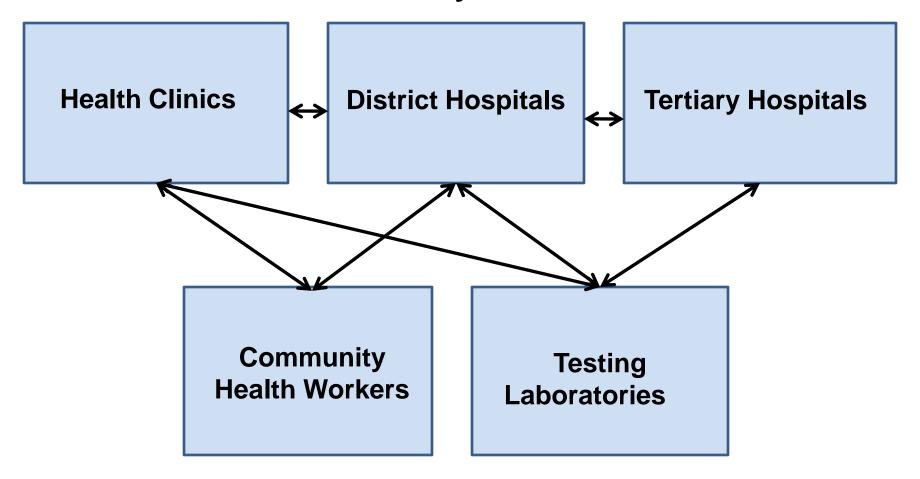
# The Care Delivery Value Chain HIV/AIDS

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 diagnoses     End-of-life counseling	
MEASURING	<ul><li>HIV testing</li><li>TB, STI screening</li><li>Collecting baseline demographics</li></ul>	HIV testing for others at risk     CD4+ count, clinical exam, labs	Monitoring CD4+     Continuously assessing comorbidities	Regular primary care assessments     Lab evaluations for initiating drugs	response to drugs  • Managing	HIV staging, response to drugs     Regular primary care assessments  PATIL  VAL	
ACCESSING	<ul><li>Meeting patients in high-risk settings</li><li>Primary care clinics</li><li>Testing centers</li></ul>	Primary care clinics     Clinic labs     Testing centers	Primary care clinics     Food centers     Home visits	Primary care clinics     Pharmacy     Support groups	Primary care clinics     Pharmacy     Support groups	<ul><li>Primary care clinics</li><li>Pharmacy</li><li>Hospitals, hospices</li></ul>	
	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	DIAGNOSING & STAGING  • Formal diagnosis, staging • Determining method of transmission • Identifying others at risk • TB, STI screening • Pregnancy	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	MANAGEMENT OF CLINICAL DETERIORATION  • Identifying clinical and laboratory deterioration  • Initiating second- and third-line drug therapies  • Managing acute illnesses and opportunistic infection through aggressive  (Head	omes unit of

# Care Delivery Value Chain Implications for HIV/AIDS Care

- Early diagnosis helps in forestalling disease progression
- Intensive evaluation and treatment at time of the 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

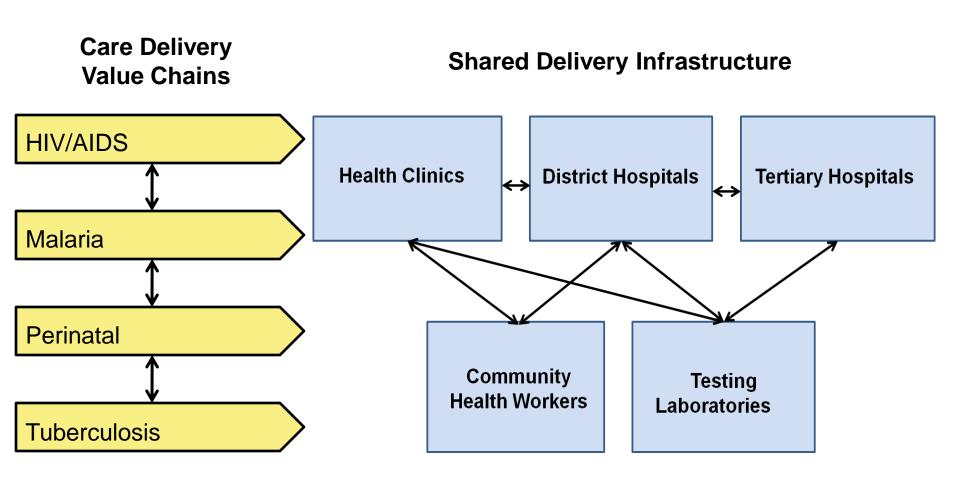
#### **Shared Delivery Infrastructure**



#### **Cross Cutting Issues**

- Supply Chain Management
- Human Resource Development
- Insurance and Financing

#### Integrating "Vertical" and "Horizontal"

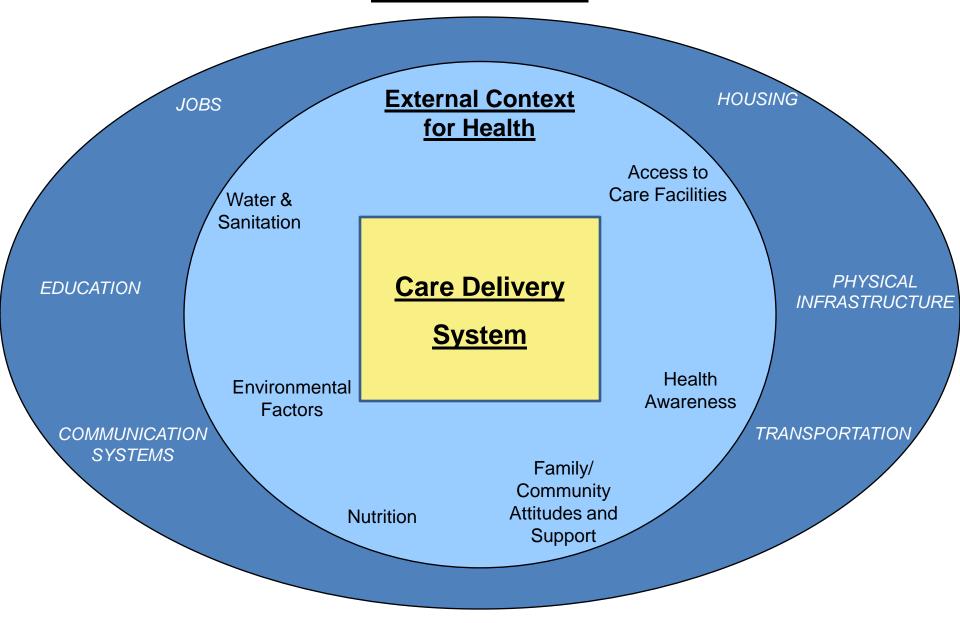


# **Shared Delivery Infrastructure**<u>Implications for HIV/AIDS Care</u>

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

## **Integrating Delivery and Context**

#### **Broader Influences**



# Integrating Care Delivery and Social/Economic Context Implications for HIV/AIDS Care

- 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
- Integrating HIV screening and treatment into routine primary care facilities can help address the social stigma of seeking care for HIV/AIDS
- Gender dynamics limit the use of prevention options in some settings



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

# IV. The Relationship Between Health Systems and Economic Development

#### Better Health Enables Economic Development

- Enables people to work
- Raises productivity

## Health System Development Fosters <u>Economic Development</u>

- Direct employment (health sector jobs)
- Local procurement
- Catalyst for infrastructure (e.g. cell towers, internet, and electrification)

#### Is there a place for a new field in global health?



- What is the patho-physiology?
- What is the diagnosis and appropriate intervention?
- Does the intervention work?

### Is there a place for a new field in global health?

