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
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
- Bilateral aid
- Drug-delivery programs
- Tanzanian government
- Coordinating committees
- Plans and programs
- IMF/World Bank
- Nongovernmental organizations
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 health outcomes per dollar spent

• How to design health care systems that dramatically improve value

• Improving value is the means to achieving social justice
Creating a Value-Based Health Care System

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

  Today, 21\textsuperscript{st} century medical technology is delivered with 19\textsuperscript{th} 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
Creating a Value-Based Health Care System

• 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

\[
\begin{array}{c}
\text{Financial success of system participants} \\
\neq \neq \\
\text{Patient success}
\end{array}
\]

• Creating competition on 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**
- 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

Positive Sum
Principles of Value-Based Health Care Delivery

1. The goal must be *value for patients*, not maximizing revenue or lowering costs

   - Improving value will require going *beyond waste reduction* and *administrative savings*
Principles of Value-Based Health Care Delivery

1. The goal must be **value for patients**, not lowering costs

   • 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
   - Rapid care delivery process with fewer delays
   - Fewer complications
   - Fewer mistakes and repeats in treatment
   - 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
   • **Better health** is the goal, not more treatment
Principles of Value-Based Health Care Delivery

1. The goal must be **value for patients**, not lowering costs

   • Providers should **compete for patients** based on **value**
     
     – Instead of supply control, process compliance, or administrative oversight
     
     – Get **patients** to excellent providers vs. “lift all boats”
     
     – Expand the **proportion of patients** cared for by the most effective organizations
     
     – **Grow the excellent organizations** by adding capacity and expanding across locations
Principles of Value-Based Health Care Delivery

1. The goal must be **value for patients**, not lowering costs

2. Health care delivery should be organized around **medical conditions** over the **full cycle of care**
Restructuring Health Care Delivery
Migraine Care in Germany

Existing Model: Organize by Specialty and Discrete Services
- Imaging Centers
- Outpatient Physical Therapists
- Outpatient Neurologists
- Inpatient Treatment and Detox Units
- Outpatient Psychologists
- Primary Care Physicians

New Model: Organize into Integrated Practice Units (IPUs)

- Imaging Unit
- West German Headache Center
  - Neurologists
  - Psychologists
  - Physical Therapists
  - Day Hospital
- Network Neurologists
- Essen Univ. Hospital Inpatient Unit

Principles of Value-Based Health Care Delivery

1. The goal must be **value for patients**, not lowering costs

2. Health care delivery should 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
     – Involving **multiple** specialties and services

   • **Includes** the most common co-occurring conditions

   • Examples
     – Diabetes (including vascular disease, retinal disease, hypertension, others)
     – Migraine
     – Breast Cancer
     – Stroke
     – Asthma
     – Congestive Heart Failure
The Cycle of Care
Care Delivery Value Chain for Breast Cancer

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<td>Advice on self screening</td>
<td>Counseling patient and family on the diagnostic process and the diagnosis</td>
<td>Procedure-specific measurements</td>
<td>Medical history</td>
<td>Surgery prep (anesthetic risk assessment, EKG)</td>
<td>Surgery (breast preservation or mastectomy, oncoplastic alternative)</td>
<td>In-hospital and outpatient wound healing</td>
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<tr>
<td>Consultation on risk factors</td>
<td>Counseling on treatment process Achieving compliance</td>
<td>Range of movement Side effects measurement</td>
<td>Control of risk factors (obesity, high fat diet)</td>
<td>Plastic or oncoplastic surgery evaluation</td>
<td>Adjuvant therapies (hormonal medication, radiation, and/or chemotherapy)</td>
<td>Treatment of side effects (e.g. skin damage, cardiac complications, nausea, lymphodema and chronic fatigue)</td>
<td>Other imaging</td>
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- **Primary care providers** are often the **beginning** and **end** of the care cycle
- The medical condition is the **unit of value creation** in health care delivery
Diabetes Care
Typical Structure

Outpatient Endocrinologist
Podiatry
Psychiatrist/Psychologist Visit
Social Worker
Nutritionist

Primary Care Physician
Diabetes Nurse Education Visit
Outpatient Cardiology
Laboratory
Outpatient Neurologist

Outpatient Nephrologist
Ophthalmologist
Laser Eye Surgery
Vascular Surgeon
Inpatient Cardiology

Kidney Dialysis
Inpatient Endocrinology
Inpatient Vascular Surgery
Integrated Diabetes Care
Joslin Diabetes Center

Core Team
- Endocrinologist
- Diabetes Nurse Educator

Extended Team
- Nephrologist
- Cardiologist
- Ophthalmologist
- Optometrist
- Psychiatrist
- Psychologist
- Social Worker
- Nutritionist
- Exercise Physiologist

Acute Complications
- Hyperglycemia
- Hypoglycemia

Long-Term Complications
- Cardiovascular Disease
- Cardiologist
- Neuropathy
- Vascular Surgeon
- Neurologist
- Podiatry
- End Stage Renal Disease
Principles of Value-Based Health Care Delivery

• Health care delivery should be **integrated across facilities and regions**, rather than take place in stand-alone units

Children’s Hospital of Philadelphia (CHOP) Affiliations

• Excellent providers can manage care delivery **across multiple geographies**
Principles of Value-Based Health Care Delivery

1. The goal must be **value for patients**, not lowering costs

2. Health care delivery should be organized around **medical conditions** over the **full cycle of care**

3. **Value** must be universally measured and reported

   • **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 must be measured at the **level at which value is created** for patients
Measuring Value in Health Care

Patient Initial Conditions → Structure and Process → (Health) Outcomes

Patient Compliance

Health Indicators
- E.g., Hemoglobin A1c levels of patients with diabetes

• Evidence-based medicine
• Protocols
• Guidelines
• Infrastructure

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The Outcome Measures Hierarchy

Breast Cancer

- Survival
  - Survival rate
    (One year, three year, five year, longer)

- Degree of recovery / health
  - Remission
  - Functional status
  - Breast conservation outcome

- Time to recovery or return to normal activities
  - Time to remission
  - Time to achieve functional status

- Disutility of care or treatment process
  (e.g., treatment-related discomfort, complications, adverse effects, diagnostic errors, treatment errors)
  - Nosocomial infection
  - Nausea
  - Vomiting
  - Febrile neutropenia
  - Limitation of motion
  - Depression

- Sustainability of recovery or health over time
  - Cancer recurrence
  - Sustainability of functional status

- Long-term consequences of therapy
  (e.g., care-induced illnesses)
  - Incidence of secondary cancers
  - Brachial plexopathy
  - Premature osteoporosis
Principles of Value-Based Health Care Delivery

1. The goal must be **value for patients**, not lowering costs

2. Health care delivery should be organized around **medical conditions** over the **full cycle of care**

3. **Value** must be universally measured and reported

4. Reimbursement should 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**
   - Reimbursement adjusted for **patient complexity**
   - Reimbursement for **overall management of chronic conditions**
   - Reimbursement for **prevention and screening**, not just treatment

   • **Providers** should be proactive in moving to new reimbursement models, not wait for health plans and Medicare
Principles of Value-Based Health Care Delivery

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5. Information technology will enable **restructuring of care delivery** and **measuring results**, but is not a solution by itself

- Common data definitions
- Interoperability standards
- Patient-centered database
- Include 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 specialties or types of practitioners
- Discrete interventions
- Individual disease stages
- 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 co-occurrences
- Integrated care delivery systems
- Integrated systems across communities and regions
A Framework for Global Health Delivery

I. Care Delivery Value Chains for Medical Conditions

II. Shared Delivery Infrastructure

III. Aligning Delivery with External Context

IV. Leveraging Health Care Delivery System For Economic and Social Development
HIV/AIDS Care Delivery Value Chain
Resource-Poor Settings

- Informing and Engaging
- Measuring
- Accessing

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(Patient Value)

(Health outcomes per unit of cost)
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

MEASURING
- HIV testing
- TB, STI screening
- Collecting 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
- HIV staging, response to drugs
- Managing complications
- HIV staging, response to drugs
- Regular primary care assessments

ACCESSING
- Meeting patients in high-risk settings
- Primary care clinics
- Testing centers
- Primary care clinics
- Clinic labs
- Home visits
- Primary care clinics
- Pharmacy
- Support groups
- Primary care clinics
- Pharmacy
- Support groups
- 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

DIAGNOSING & STAGING
- Formal diagnosis, staging
- Determining method of transmission
- Identifying others at risk
- TB, STI screening
- Pregnancy testing, contraceptive counseling
- Creating treatment plans
- 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 co-morbidities that affect disease progression, especially TB
- Improving patient awareness of disease progression, 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 infection through aggressive outpatient management or hospitalization
- Providing social support
- Access to hospice care

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

- 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

• 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

• Coordinated development of shared 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

- Environmental Factors
- Health Awareness
- Nutrition

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

Access to Care Facilities
Family/Community Attitudes and Support
Water & Sanitation
Integrating Delivery and Context
Broader Influences

External Context for Health

- Care Delivery Value Chain
  - HIV/AIDS
- Care Delivery Value Chain
  - TUBERCULOSIS
- Care Delivery Value Chain
  - MATERNAL, PERINATAL CARE
- Care Delivery Value Chain
  - MALARIA

Shared Delivery Infrastructure

Environmental Factors

Water & Sanitation

Access to Care Facilities

Family/Community Attitudes and Support

Transportation

Physical Infrastructure

Education

Communication Systems

Jobs

Housing

Nutrition

Health Awareness

20080707 GHD Course.ppt
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 prevention 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**

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

Develop a Global Health Delivery Framework

Create Innovation Centers

High Value Health Care Delivery

Launch Communities of Practice

Educate Leaders