Value-Based Health Care Delivery

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Yale School of Public Health February 5, 2010

This presentation draws on Michael E. Porter and Elizabeth Olmsted Teisberg: <u>Redefining Health Care: Creating Value-Based Competition on Results</u>, 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 http://www.isc.hbs.edu.

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 delivery system that dramatically improves patient value
 - Ownership of entities is secondary (e.g. non-profit vs. for profit vs. government)
- How to construct a **dynamic system** that keeps rapidly improving

Creating a Value-Based Health Care System

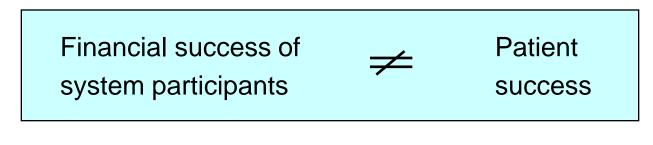
 Significant improvement in value will require fundamental restructuring of health care delivery, not incremental improvements

> Today, 21st century medical technology is often delivered with 19th century organization structures, management practices, measurement, and pricing

- Process improvements, care pathways, lean production, safety initiatives, disease management and other overlays to the current structure are beneficial but not sufficient
- "Consumers" cannot fix the dysfunctional structure of the current system

Harnessing Competition on Value

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



- Creating positive-sum competition on value is a central challenge in health care reform in every country

Principles of Value-Based Health Care Delivery

The fundamental issue in health care is value for patients, not access, volume, convenience, or cost containment

	Health outcomes	
Value =	Costs of delivering the outcomes	

- Outcomes are the full set of patient health outcomes over the care cycle
- Costs are the total costs of care for the patient's condition, not just the cost of a single provider or a single service

How to design a health care system that dramatically improves patient value

Principles of Value-Based Health Care Delivery

Quality improvement is the key driver of cost containment and higher value, where quality is **health outcomes**

- Prevention
- Early detection
- Right diagnosis
- Right treatment to the right patient
- Early and timely treatment
- Treatment earlier in the causal chain of disease
- Rapid cycle time of diagnosis and treatment
- Less invasive treatment methods

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

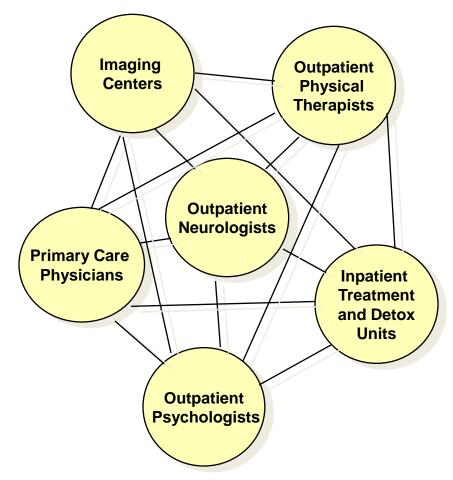
- Better health is the goal, not more treatment
- Better health is **inherently less expensive** than poor health

Value-Based Health Care Delivery The Strategic Agenda

- 1. Organize into Integrated Practice Units (IPUs)
 - Including primary and preventive care for distinct patient populations
- 2. Measure Outcomes and Cost for Every Patient
- 3. Utilize Bundled Reimbursement Models for Care Cycles
- 4. Integrate Provider Systems
- 5. Grow by Expanding Excellent IPUs Across Geography
- 6. Create an Enabling Information Technology Platform

1. Organize into Integrated Practice Units <u>Migraine Care in Germany</u>

Existing Model: Organize by Specialty and Discrete Services

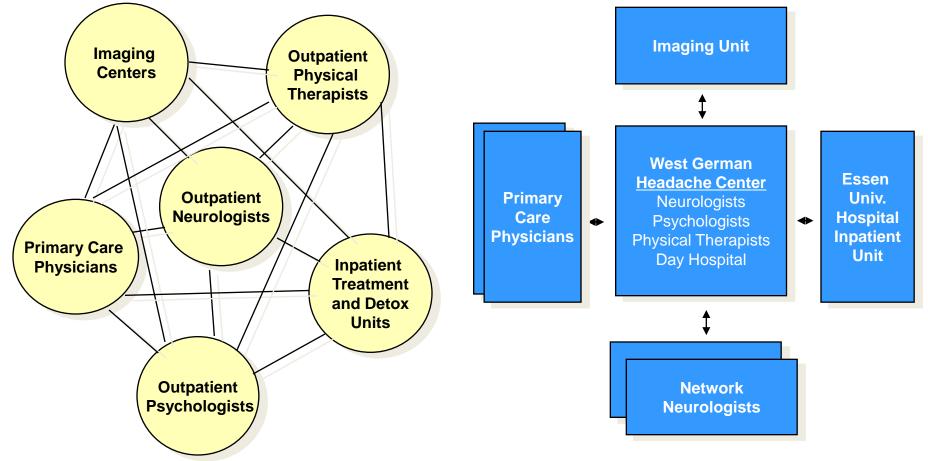


Source: Porter, Michael E., Clemens Guth, and Elisa Dannemiller, The West German Headache Center: Integrated Migraine Care, Harvard Business School Case 9-707-559, September 13, 2007

1. Organize into Integrated Practice Units <u>Migraine Care in Germany</u>

Existing Model: Organize by Specialty and Discrete Services

<u>New Model:</u> Organize into Integrated Practice Units (IPUs)



Source: Porter, Michael E., Clemens Guth, and Elisa Dannemiller, The West German Headache Center: Integrated Migraine Care, Harvard Business School Case 9-707-559, September 13, 2007

Integrating Across the Cycle of Care Breast Cancer

INFORMING AND ENGAGING	Advice on self screening Consultations on risk factors	• Counseling patient and family on the diagnostic process and the diagnosis	Explaining patient treatment options/shared decision making Patient and family psychological counseling	Counseling on the treatment process Education on managing side effects and avoiding complications of treatment Achieving compliance	Counseling on rehabilitation options, process Achieving compliance Psychological counseling	 Counseling on long term risk management Achieving Compliance
MEASURING	Self exams Mammograms	Mammograms Ultrasound MRI Labs (CBC, Blood chems, etc.) Biopsy BRACA 1, 2 CT CT Bone Scans	•Labs	Procedure-specific measurements	Range of movement Side effects measurement	•MRI, CT •Recurring mammograms (every six months for the first 3 years)
ACCESSING	Office visits Mammography lab visits	Office visits Lab visits High risk clinic visits	Office visits Hospital visits Lab visits	Hospital stays Visits to outpatient radiation or chemotherapy units Pharmacy	Office visits Rehabilitation facility visits Pharmacy	Office visits Lab visits Mammographic labs and imaging center visits
	MONITORING/ PREVENTING	DIAGNOSING	PREPARING	INTERVENING	RECOVERING/ REHABING	
		 Medical history Determining the specific nature of the disease (mammograms, pathology, biopsy results) 	PREPARING • Choosing a treatment plan • Surgery prep (anesthetic risk assessment, EKG)	INTERVENING • Surgery (breast preservation or mastectomy, oncoplastic alternative)	REHABING • In-hospital and outpatient wound healing • Treatment of side effects (e.g. skin damage, cardiac complications, nausea, lymphodema	Periodic mammography Other imaging Follow-up clinical exams
	PREVENTING Medical history Control of risk factors (obesity, high fat diet) Genetic screening Clinical exams	 Medical history Determining the specific nature of the disease (mammograms, pathology, biopsy 	 Choosing a treatment plan Surgery prep (anesthetic risk 	Surgery (breast preservation or mastectomy, oncoplastic	REHABING • In-hospital and outpatient wound healing • Treatment of side effects (e.g. skin damage, cardiac complications,	Periodic mammography Other imaging Follow-up clinical

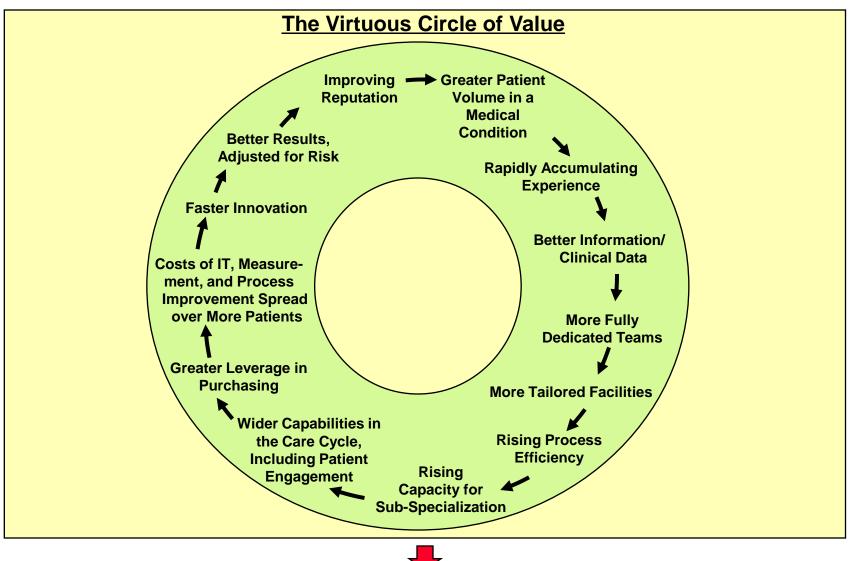
Breast Cancer Specialist Other Provider Entities

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				Pharmacy		
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	PREVENTING				REHABING	
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	Medical history Control of risk factors (obesity, high fat diet) Genetic screening Clinical exams	Determining the specific nature of the disease (mammograms, pathology, biopsy results)	plan Surgery prep (anesthetic	preservation or mastectomy, oncoplastic	REHABING In-hospital and outpatient wound healing Treatment of side effects (e.g. skin damage, cardiac complications,	Periodic mammography Other imaging Follow-up clinical exams

Breast Cancer Specialist Other Provider Entities

The Role of Volume and Experience in Patient Value



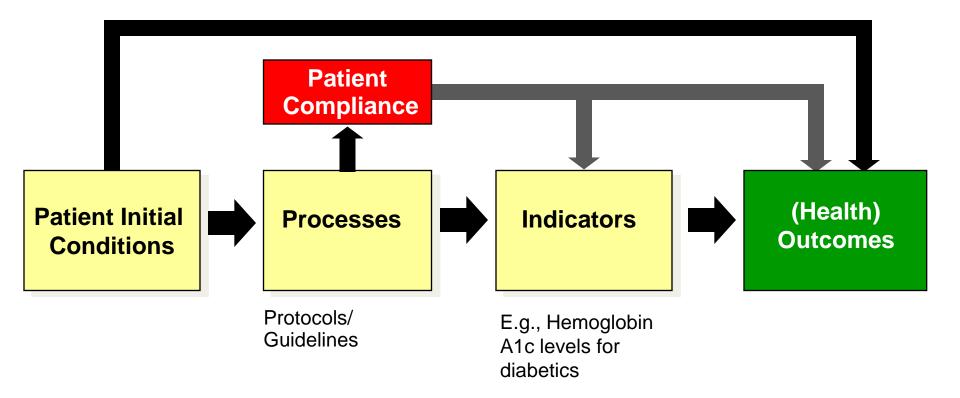
 Volume and experience have an even greater impact on value in an IPU structure than in the current system

Fragmentation of Hospital Services Sweden

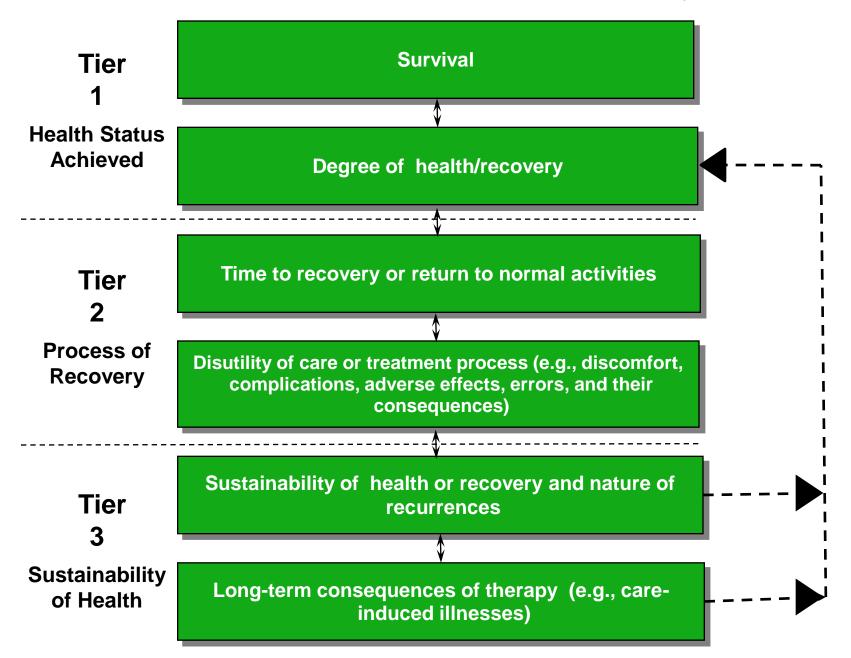
DRG	Number of admitting providers	Average percent of total national admissions	Average admissions/ provider/ year	Average admissions/ provider/ week
Knee Procedure	68	1.5%	55	1
Diabetes age > 35	80	1.3%	96	2
Kidney failure	80	1.3%	97	2
Multiple sclerosis and cerebellar ataxia	78	1.3%	28	1
Inflammatory bowel disease	73	1.4%	66	1
Implantation of cardiac pacemaker	51	2.0%	124	2
Splenectomy age > 17	37	2.6%	3	<1
Cleft lip & palate repair	7	14.2%	83	2
Heart transplant	6	16.6%	12	<1

Source: Compiled from The National Board of Health and Welfare Statistical Databases - DRG Statistics, Accessed April 2, 2009.

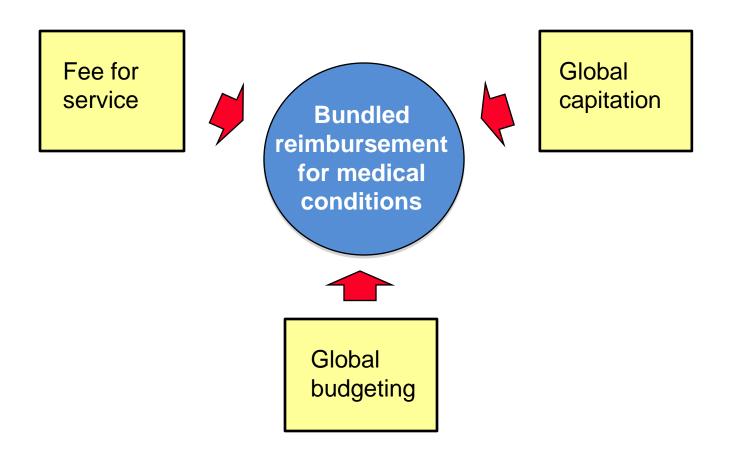
2. Measure Outcomes and Cost For Every Patient



The Outcome Measures Hierarchy



3. Utilize Bundled Reimbursement Models for Care Cycles



What is Bundled Payment?

- Total package price for the care cycle for a medical condition
 - Includes responsibility for avoidable complications
 - Medical condition capitation
- The bundled price should be severity adjusted

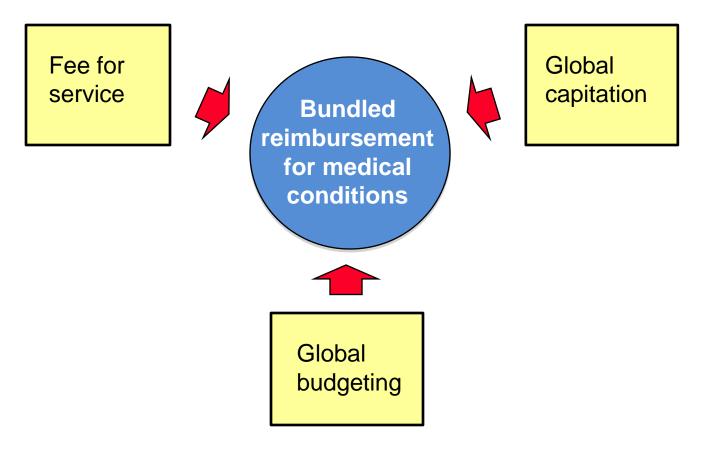
What is Not Bundled Payment

- Prices for **short** episodes (e.g. inpatient only, procedure only)
- Separate payments for physicians and facilities
- Pay-for-performance bonuses
- "Medical Home" payment for add-on services

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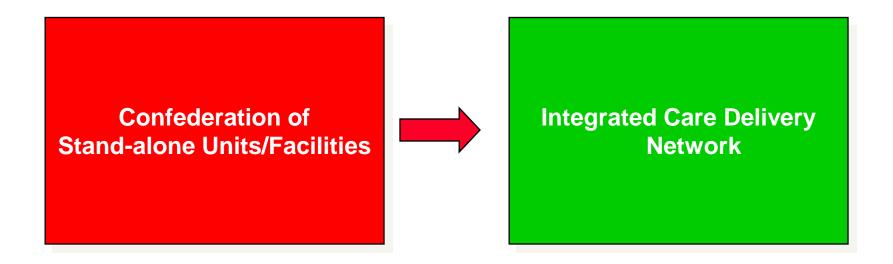
• DRGs can be a starting point for bundled models

3. Utilize Bundled Reimbursement Models for Care Cycles



- Bundled reimbursement motivates value improvement, care cycle optimization, and spending to save
 - Let experts decide the value of individual services and products within the bundle, rather than outside parties
- Outcome measurement and reporting at the medical condition level is needed for any reimbursement system to ultimately succeed

4. Integrate Provider Systems



- Fragmented and duplicative services
- Passive referrals

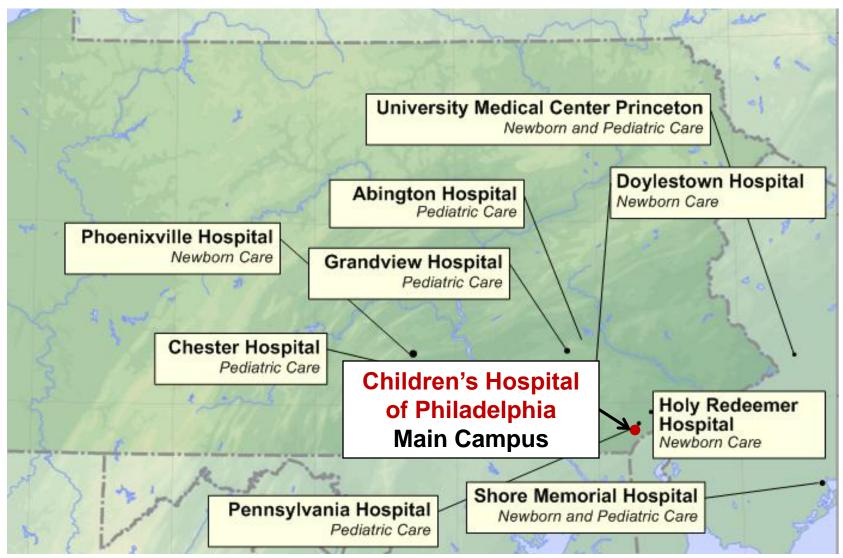
 The provider network is more than the sum of its parts

Levels of System Integration

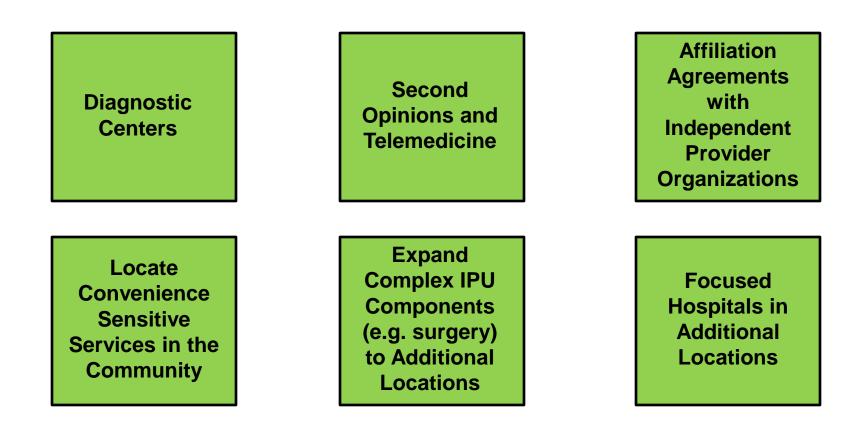
- 1. Rationalize service lines/ IPUs across facilities to improve volume, avoid duplication, play to strength, and concentrate excellence
- 2. Offer specific services at the **appropriate facility**
 - E.g. acuity level, cost level, need for convenience
 - Refer patients to the appropriate unit
- 3. Clinically integrate care across facilities, within an IPU structure
 - IPUs extend across facilities
 - Consistent protocols, consultations with experts
 - Integrating across the full care cycle
 - Linking preventative/primary care units to specialty IPUs
 - Connecting ancillary service units to IPUs
 - E.g. home care, rehabilitation, behavioral health, social work, addiction treatment

5. Grow Excellent Services Across Geography Children's Hospital of Philadelphia (CHOP)

Hospital Affiliates



Models of Geographic Expansion

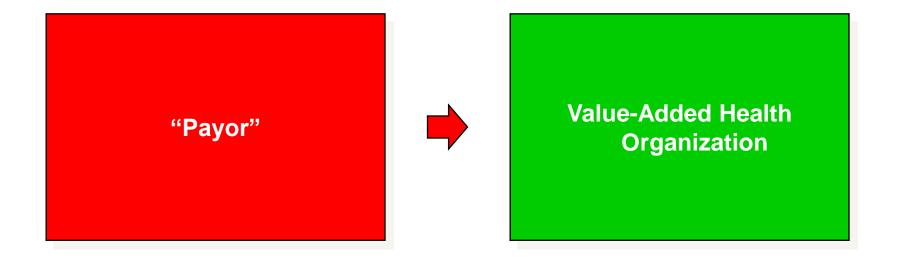


6. Create an Enabling Information Technology Platform

Utilize information technology to enable **restructuring of care delivery** and **measuring results**, rather than treating it as a solution itself

- Common data definitions
- Combine all types of data (e.g. notes, images) for each patient over time
- Data encompasses the full care cycle, including referring entities
- "Structured" data vs. free text
- Templates for medical conditions to enhance the user interface
- Allowing access and communication among all involved parties, including patients
- Architecture that allows easy extraction of outcome and process measures
- Interoperability standards enabling communication among different provider systems

Value-Based Healthcare Delivery: Implications for Health Plans



Value-Based Health Care: The Role of Employers

- Employer interests are more closely aligned with patient interests than any other system player
 - Employers need healthy, high performing employers
 - Employers bear the costs of chronic health problems and poor quality care
 - The cost of poor health is 2 to 7 times more than the cost of health benefits
 - o Absenteeism
 - o Presenteeism
- Employers are **uniquely positioned** to improve employee health
 - Daily interactions with employees
 - On-site clinics for quick diagnosis and treatment, prevention, and screening
 - Group culture of wellness

Transforming the Roles of Employers

Old Role

- Set the goal of reducing health premium costs
- Focus on direct cost of health benefits
- Use bargaining power to negotiate discounts from health plans and providers
- Shift costs to employees via premium payments, co-payments
- Evaluate plans and providers based on process compliance (P4P)
- Limit or eliminate the employer role in health insurance

New Role

Set the goal of employee health



- Focus on the overall cost of poor health (e.g., productivity, lost days)
- Work with health plans and providers to improve overall value delivered
- Improve access to high-value care (e.g. wellness, prevention, screening, and disease management)
- Evaluate plans and providers based on health outcomes
- Take a leadership role in expanding the insurance system to encompass individually purchased plans on favorable terms

A Strategy for U.S. Health Care Reform

Shift Insurance Market :

- Build on the current employer based system
- Shift **insurance market competition** by ending discrimination based on pre-existing conditions and re-pricing upon illness
- Create large statewide and multistate insurance pools to aggregate volume and buying power and provide a viable insurance option for individuals and small groups, coupled with a reinsurance system for high cost individuals
- Phase in **income-based subsidies** on a sliding scale for lower income individuals, at a pace that reflects progress of value improvements
- Once viable insurance options are established, mandate the purchase of health insurance for higher income and ultimately all Americans
- Give employers a choice of providing insurance or a payroll tax based on the proportion of employees requiring public assistance

A Strategy for U.S. Health Care Reform

Restructure Delivery:

- Establish a universal and mandatory outcomes measurement and reporting system
 - **Experience reporting** as an interim step
- Shift reimbursement systems to bundled payment for cycles of care instead of payments for discrete services
 - Including primary/preventive care bundles for patient segments
- Remove obstacles to restructuring of health care delivery around medical conditions
 - E. g. Stark Laws, Corporate Practice of Medicine, Anti-kickback, Malpractice
- Open up value-based competition for patients within and across state boundaries
 - E.g. Harmonize state licensing, insurance rules
 - Minimum volume standards as an interim step
- Mandate EMR adoption that enables integrated care and supports outcome measurement
 - National standards for data definitions, communication, and aggregation
 - **Software as a service** model for smaller providers
- Set rules that encourage **responsibility of individuals** for their health and health care through incentives for healthy behavior

Health Care Delivery in Resource-Poor Settings Suffers from Similar Problems

Current Model

- The product is treatment
- Measure volume of services (number of tests, treatments)
- Discrete interventions
- Individual diseases
- Fragmented, localized, pilots, programs, and entities

New Model

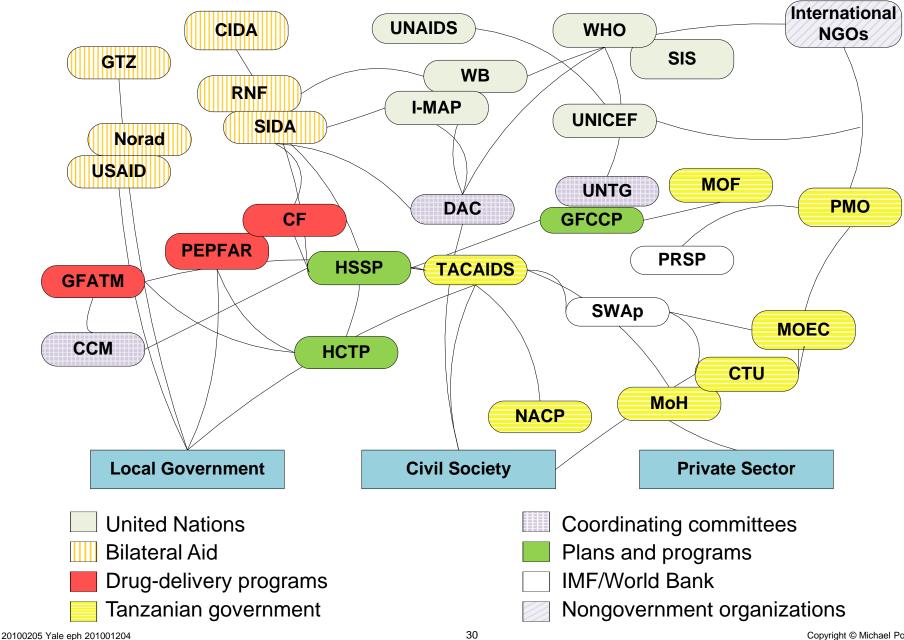
- The product is health
- Measure value of services (health outcomes per unit of cost)
 - Care cycles
- Sets of prevalent cooccurring conditions
- Integrated care delivery systems



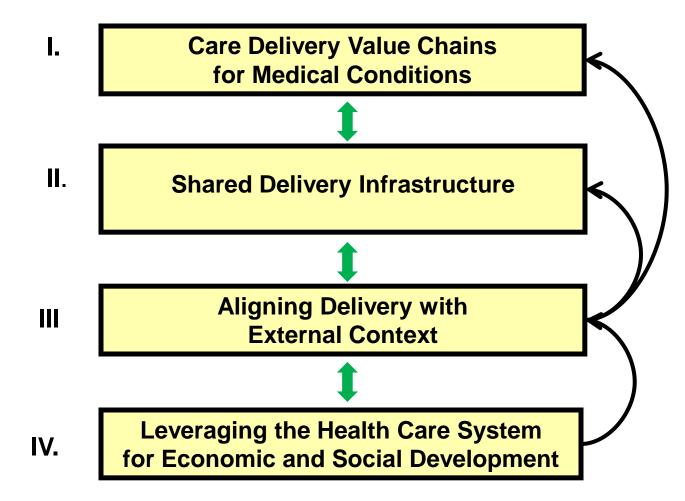
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Relationships Between Various Stakeholders in Tanzania



A Framework for Global Health Delivery



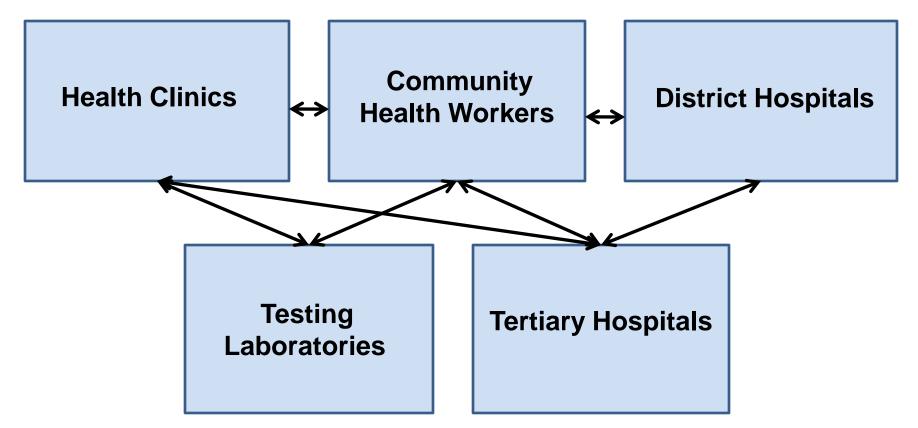
The Care Delivery Value Chain <u>HIV/AIDS</u>

INFORMING/ ENGAGING	Prevention counseling on modes of transmission and condom use	 Explanation of diagnosis and the implications Explaining the course of HIV and the prognosis 	Explanation of the approach to forestalling progression	Explanation of Medication Instructions and Side-Effects	Counseling about adherence; understanding factors for non- adherence	Explanation of the co-morbia diagnoses and the implications End-of Life Counseling
MEASURING	HIV testing Screen for sexually transmitted infections Collect baseline demographics	 HIV testing for others at risk Clinical examination CD4+ count and other labs Testing for common co- morbidities such as tuberculosis and sexually transmitted diseases Pregnancy testing 	CD4+ Count Monitoring (Continuous Staging) Regular Primary Care Assessment HIV Testing for Others at Risk Laboratory Evaluation for Medication Initiation	HIV Staging and Medication Response Highly Frequency Primary Care Assessment Assessing/Managing Complications of Therapy HIV testing for others at risk (bi-annually) Laboratory Evaluation	 HIV Staging and Medication Response Regular Primary Care Assessment Laboratory Evaluation 	HIV Staging and Medication Response Regular Primary Care Assessment Laboratory Evaluation
ACCESSING	Testing centers High risk settings Primary Care Clinics	Primary Care Clinics On-sight laboratories at Primary Care Clinics Testing Centers	Primary Care Clinics Laboratories (on-site at primary clinic) Pharmacy Food Centers Community Health Workers/ Home Visits Support Groups	Primary Care Clinics Laboratories (on-site at primary clinic) Pharmacy Community Health Workers/ Home Visits Support Groups	Primary Care Clinics Laboratories (on-site at primary clinic) Pharmacy Community Health Workers/ Home Visits Support Groups	HIV Staging and Medication Response Regular Primary Care Assessment Laboratory Evaluation Primary Care Clinics Pharmacy Laboratories (on-site at primary clinic) Community Health Workers/Home Visits Hospitals & Hospice Facilities Support Groups Food Centers
	SCREENING/PREVENTING	DIAGNOSING/STAGING	DELAYING PROGRESSION	INTITIATING ANTIRETROVIRAL THERAPY	ONGOING DISEASE MANAGEMENT	MANAGEMENT OF CLINICAL
						DETERIORATION

Care Delivery Value Chain <u>Illustrative Implications for HIV/AIDS Care</u>

- **Targeted prevention** for at-risk individuals creates more value than across the board efforts
- Early diagnosis helps in forestalling disease progression
- Intensive evaluation and treatment at the 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

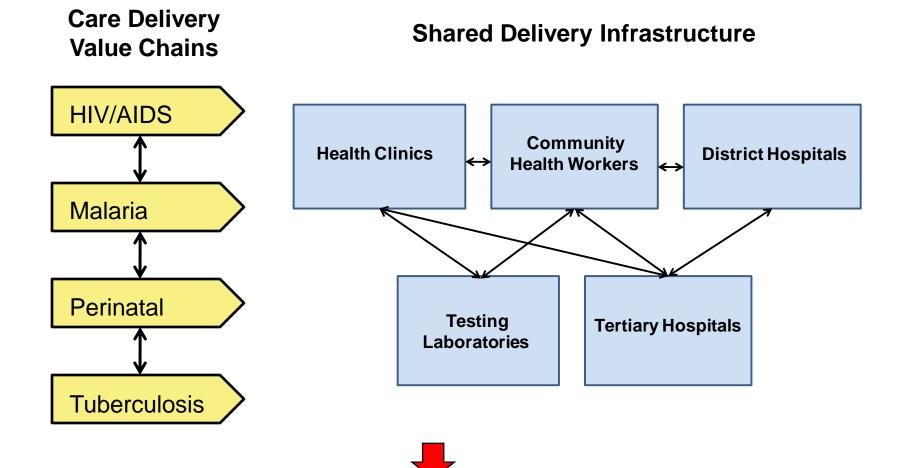
Shared Delivery Infrastructure



Cross Cutting Issues

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

Integrating "Vertical" and "Horizontal"

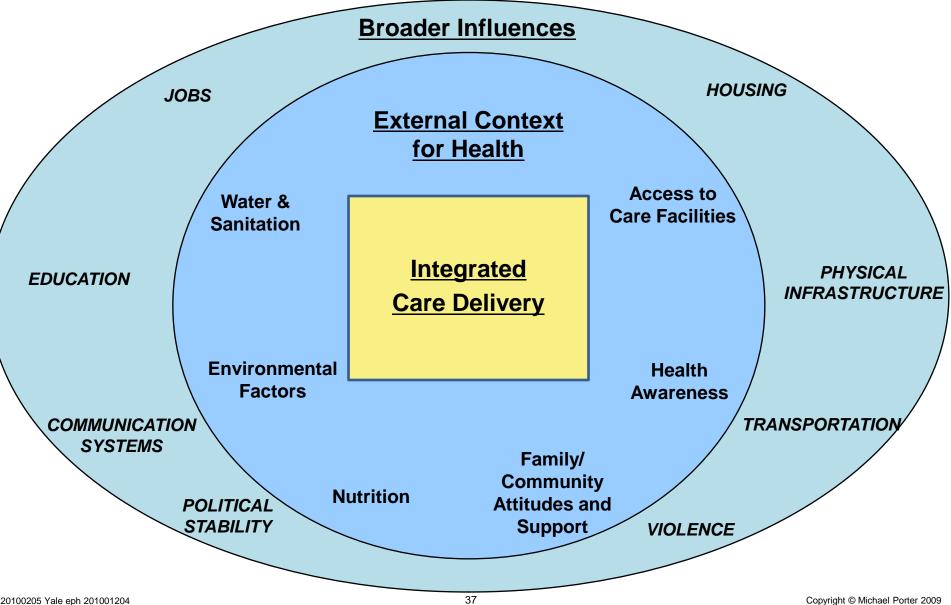


- Integrating care across related diseases
- What care at what facilities
- Integrating care across the system

Shared Delivery Infrastructure <u>Illustrative 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 can not only improve compliance with ARV therapy but can **simultaneously address other conditions**

Integrating Delivery and Context



Integrating Care Delivery and Social/Economic Context Illustrative 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

The Relationship Between Health Systems and Economic Development

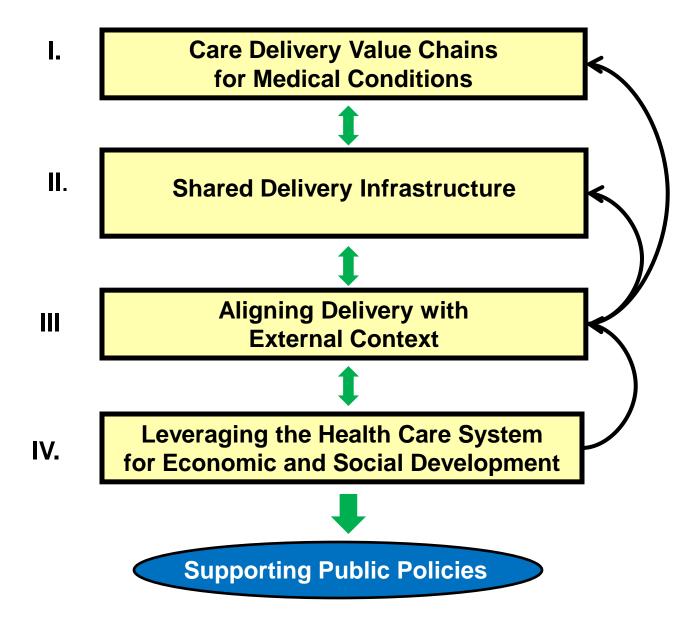
Better Health Enables Economic Development

- Enables people to work
- Raises productivity

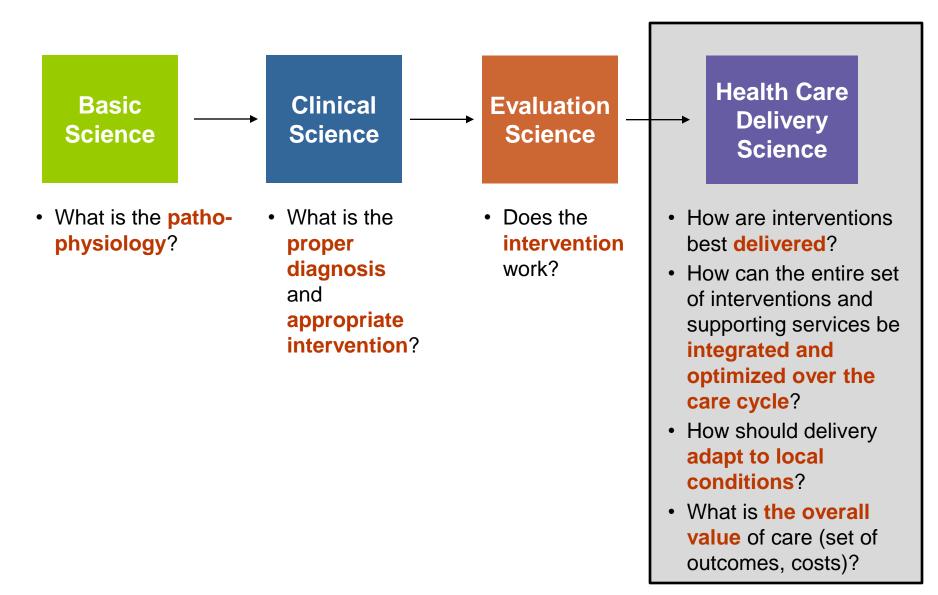
Health System Development Fosters Economic Development

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

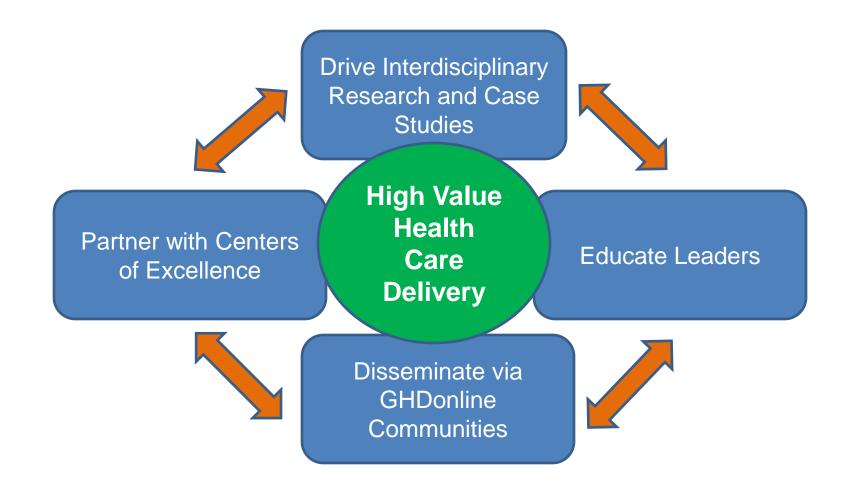
A Framework for Global Health Delivery



A New Field of Health Care Delivery



Global Health Delivery Project



Value-Based Health Care Delivery Curriculum Global Health Delivery

Teaching Materials

- Case studies
- Teaching notes
- Videos of case discussions
- Videos of guest protagonists
- Videos of topic lectures
- GHD Online

Selected Articles and Course Notes

- Applying the Care Delivery Value Chain: HIV/AIDS Care in Resource Poor Settings
- Delivering Global Health
- Redefining Global Health Care Delivery

Value-Based Health Care Delivery Global Health Case Studies

Completed Case Studies

- •Botswana's Program in Preventing Mother-to-Child HIV Transmission
- •BRAC's Tuberculosis Program: Pioneering DOT Treatment for TB in Rural Bangladesh
- •Building Local Capacity for Health Commodity Manufacturing: A to Z Textile Mills Ltd
- •CIDRZ Operations & Care Delivery Model in Zambia
- •The AIDS Support Organization (TASO)
- •The 100% Condom Program
- •HIV Voluntary Counseling and Testing in Hinche, Haiti (and case coda)
- •Iran's Triangular Clinic (and case coda)
- •Multi-Drug Resistant Tuberculosis Treatment in Peru
- •Partners In Health: HIV Care in Rwanda
- •Polio Elimination in India
- •The Academic Model for the Prevention and Treatment of HIV/AIDS (AMPATH)
- •The Anti-Malarial Supply Chain: Botanical Extracts Ltd.
- •The Peruvian National Tuberculosis Control Program
- •Tobacco Control in South Africa (and case coda)
- •Treating Malnutrition in Haiti
- •Tuberculosis in Dhaka: BRAC's Urban TB Program

Value-Based Health Care Delivery Global Health Case Studies

Near Completion

- •Zambia's National Malaria Control Program
- •Community-Based Health Insurance in Rwanda
- Measles Policy
- •ABE Pharmaceuticals

In Process

- •Avahan: HIV Prevention
- •Avahan: HIV Prevention Scale Up
- •Human Resources and Task Shifting in Swaziland
- Information Technology in Low Resource Settings: Open MRS
- •Partners Against Resistant Tuberculosis: A Network for Equity and Resource Strengthening (PARTNERS) in Peru
- •Surgical Capacity in Uganda
- Thailand and Quality Improvement

Global Health Delivery Recent and Upcoming Course Offerings

- Summer 2009 HSPH/HMS: Global Health Effectiveness Program
- July 2009 HSPH: Introduction to GHD
- Fall 2009 HMS: GHD Seminar
- Fall 2009 Sloan MIT Global Entrepreneurship Lab
- Fall 2009 Harvard Undergraduate Global Health Course
- January 2010 HSPH: Introduction to GHD
- Spring 2010 Malaria Executive Education
- Winter 2010 Harvard Business School, Global Health Design and Delivery
- July 2010 Train the Trainers for Global Health Delivery Educators
- Summer 2010 HSPH/HMS: Global Health Effectiveness Program

Global Health Delivery Project Contact Information

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