Value-Based Health Care Delivery

Professor Michael E. Porter
Harvard Business School
Institute for Strategy and Competitiveness
www.isc.hbs.edu

Rethinking Malaria: A Leadership Forum
January 18, 2011

This presentation draws on Redefining Health Care: Creating Value-Based Competition on Results (with Elizabeth O. Teisberg), Harvard Business School Press, May 2006; "A Strategy for Health Care Reform—Toward a Value-Based System," *New England Journal of Medicine*, June 3, 2009; "Value-Based Health Care Delivery," *Annals of Surgery* 248: 4, October 2008; "Defining and Introducing Value in Healthcare," *Institute of Medicine Annual Meeting*, 2007. Additional information about these ideas, as well as case studies, can be found the Institute for Strategy & Competitiveness Redefining Health Care website at http://www.hbs.edu/rhc/index.html.

Redefining Health Care Delivery

- Achieving 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 patient value?**

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, and payment models

  - Process improvements, safety initiatives, disease management and other **overlays** to the current structure are beneficial, but not sufficient

Creating Choice and Competition on Value

- **Competition** and **choice** for patients/subscribers are powerful forces to encourage restructuring of care and continuous improvement in value
- Today's competition in health care **is often not aligned with value**

Financial success of system participants	≠	Patient success

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

Principles of Value-Based Health Care Delivery

Value as the Common Goal

- The central goal in health care must be **value for patients**, not access, volume, convenience, or cost containment

$$\text{Value} = \frac{\text{Health outcomes}}{\text{Costs of delivering the outcomes}}$$

  - 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** over the care cycle

- 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 value improvement, where quality is **health outcomes**

- Prevention of illness	- Fewer complications
- Early detection	- Fewer mistakes and repeats in treatment
- Right diagnosis	- Faster recovery
- Right treatment to the right patient	- More complete recovery
- Early and timely treatment	- Less disability
- Treatment earlier in the causal chain of disease	- Fewer recurrences, relapses, flare ups, or acute episodes
- Rapid cycle time of diagnosis and treatment	- Slower disease progression
- Less invasive treatment methods	- Greater functionality and 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

Creating a Value-Based Delivery System

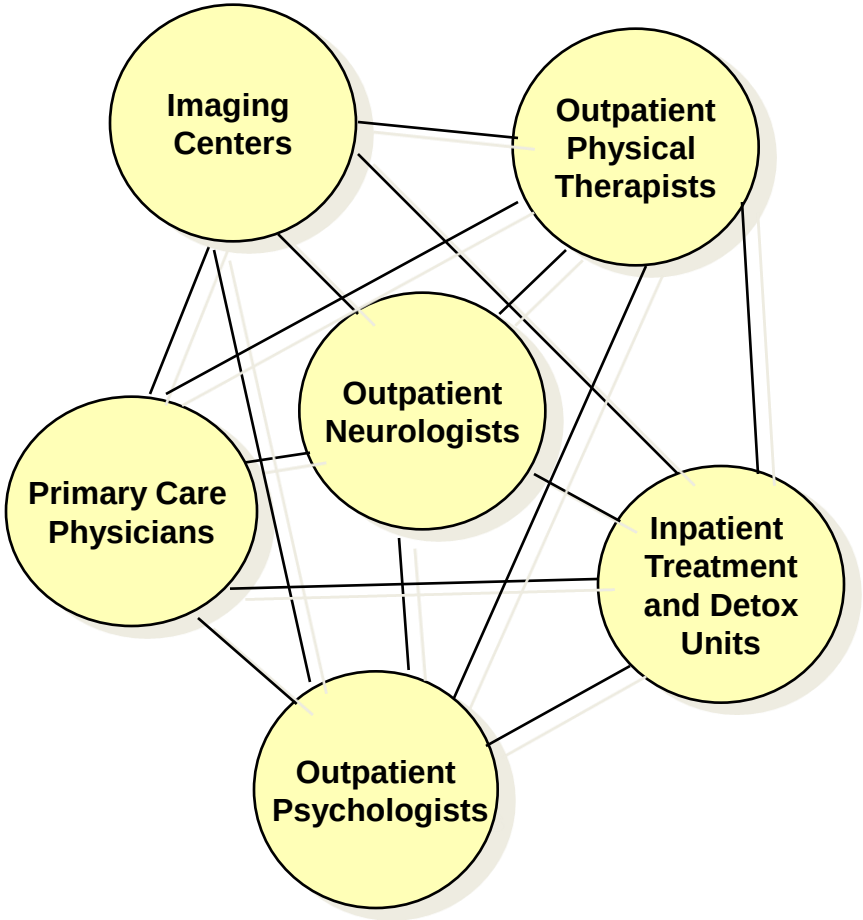
The Strategic Agenda

1. **Organize into Integrated Practice Units (IPUs) Around Patient Medical Conditions**
   - **Primary and preventive care should be organized around distinct patient populations**
2. **Establish Universal Measurement of Outcomes and Cost for Every Patient**
3. **Move to Bundled Prices for Care Cycles**
4. **Integrate Care Delivery Across Separate Facilities**
5. **Expand Excellent IPUs Across Geography**
6. **Create an Enabling Information Technology Platform**

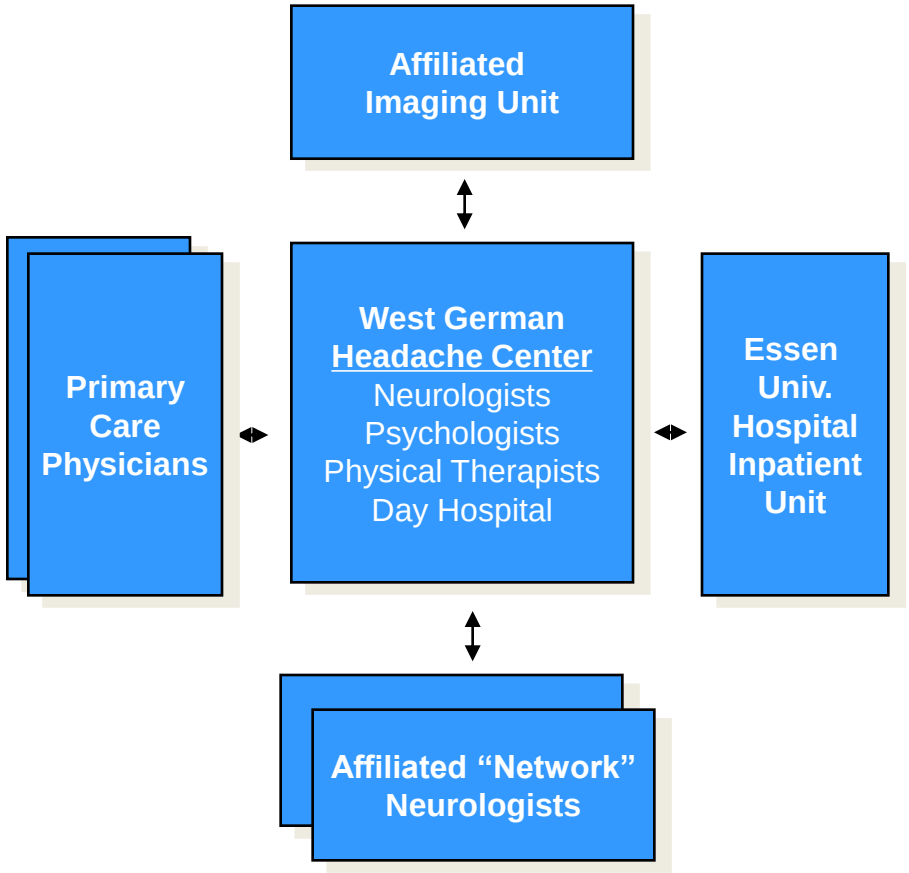
1. Organize Around Patient Medical Conditions

Migraine Care in Germany

Existing Model:
Organize by Specialty and Discrete Services



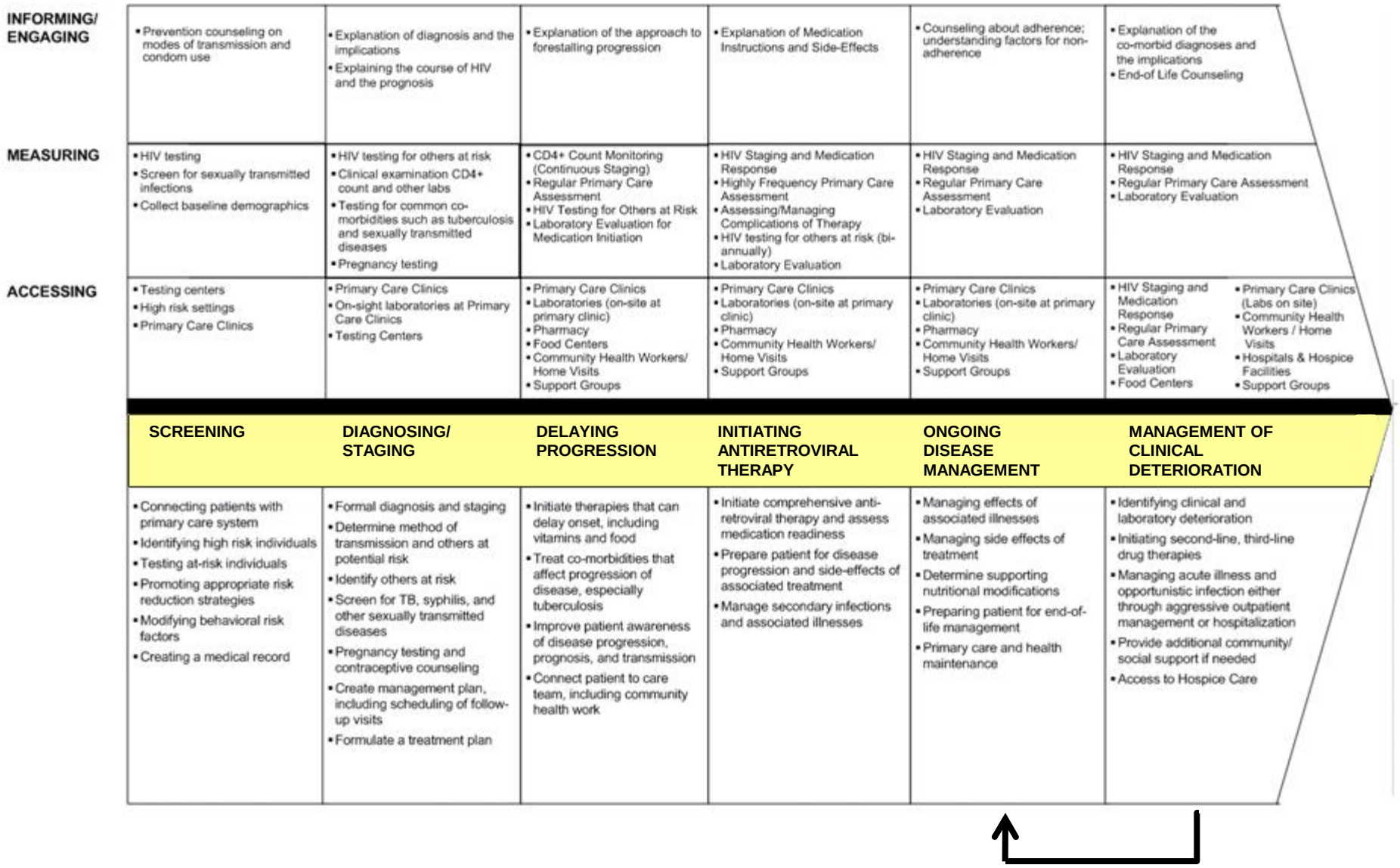
New Model:
Organize into Integrated Practice Units (IPUs)



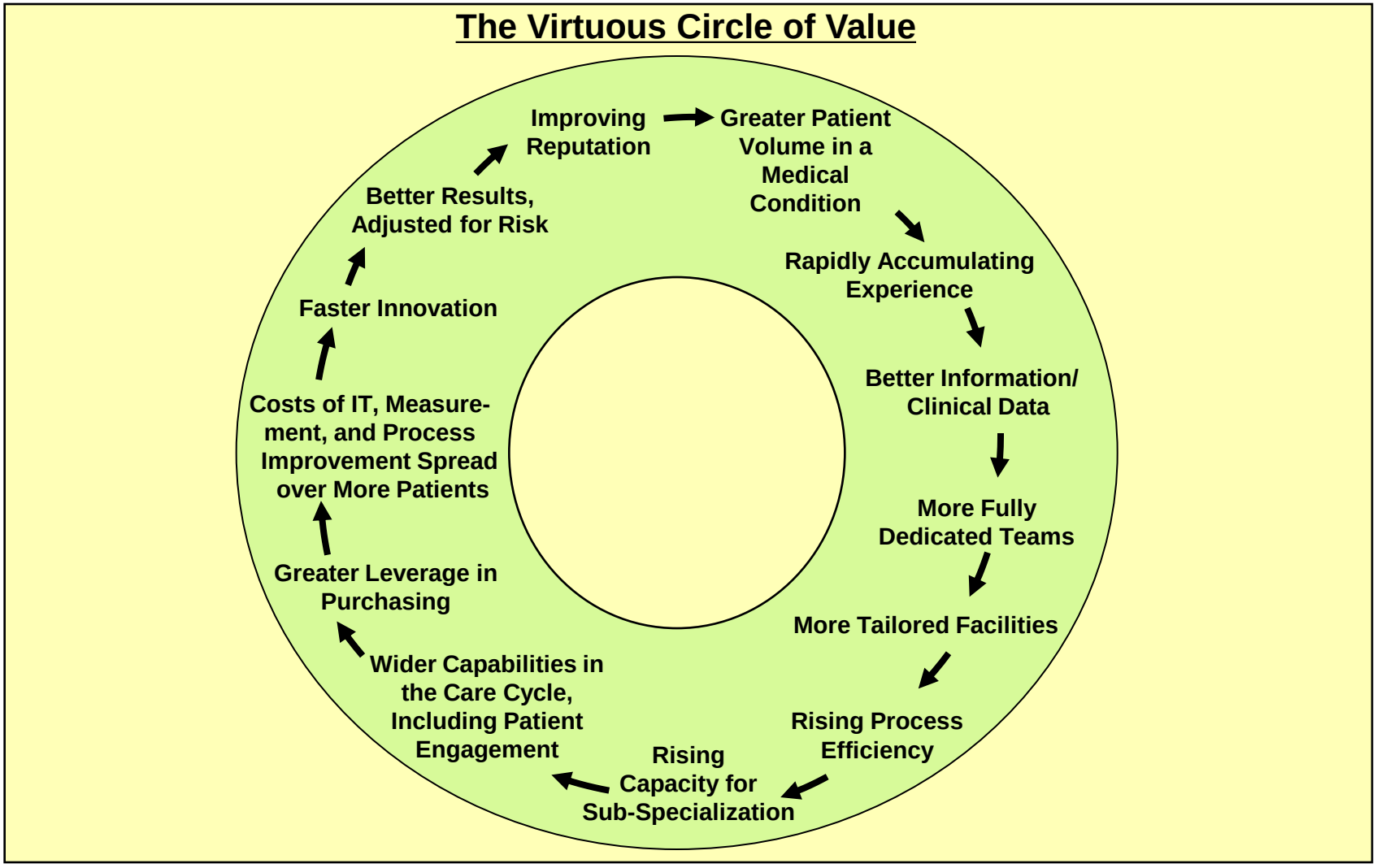
Source: Porter, Michael E., Clemens Guth, and Elisa Dannemiller, *The West German Headache Center: Integrated Migraine Care*, Harvard Business School Case 9-707-559, September 13, 2007

The Care Delivery Value Chain

HIV/AIDS



Volume in a Medical Condition Enables Value



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

Role of Volume in Value Creation

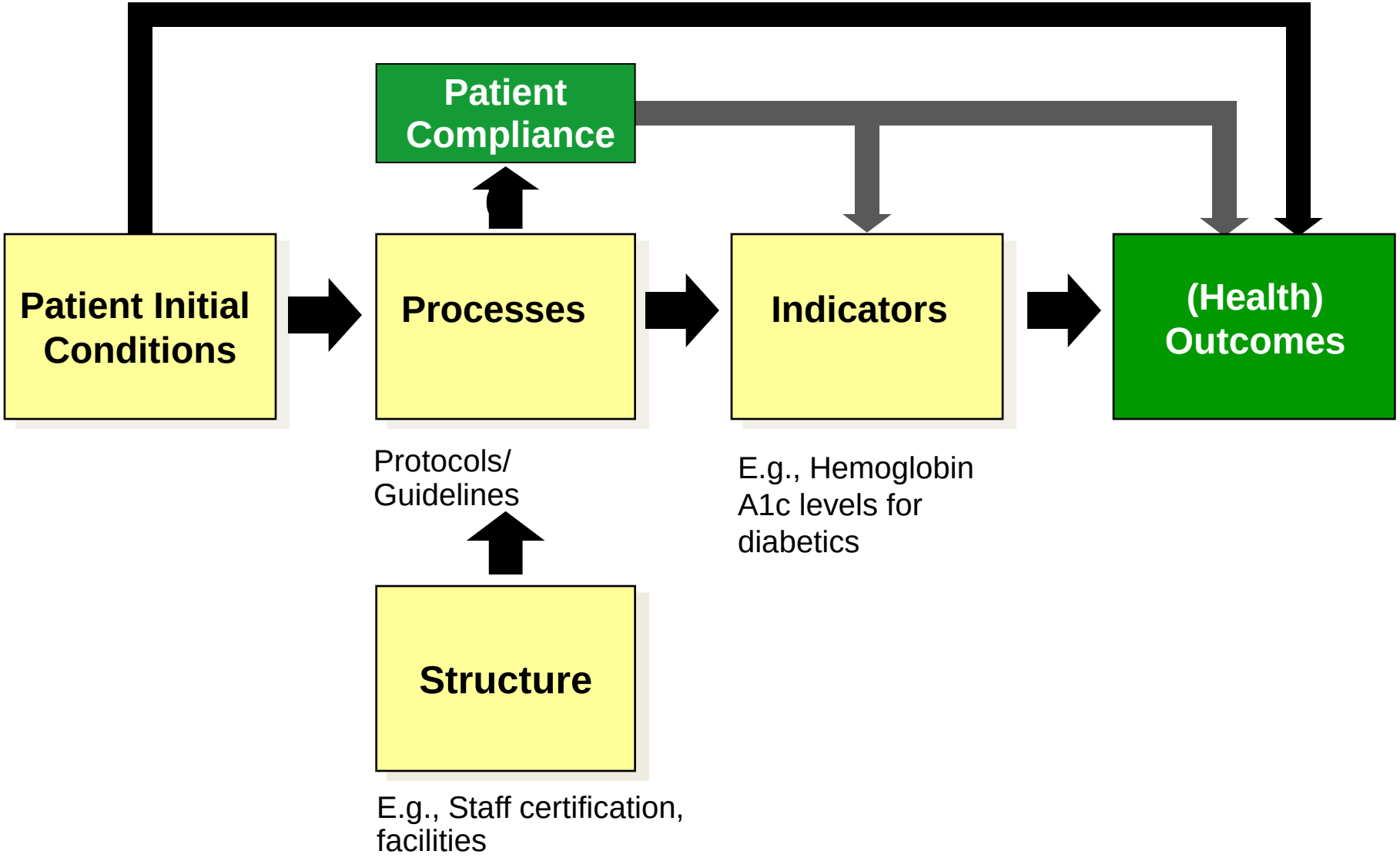
Fragmentation of Hospital Services in Sweden

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

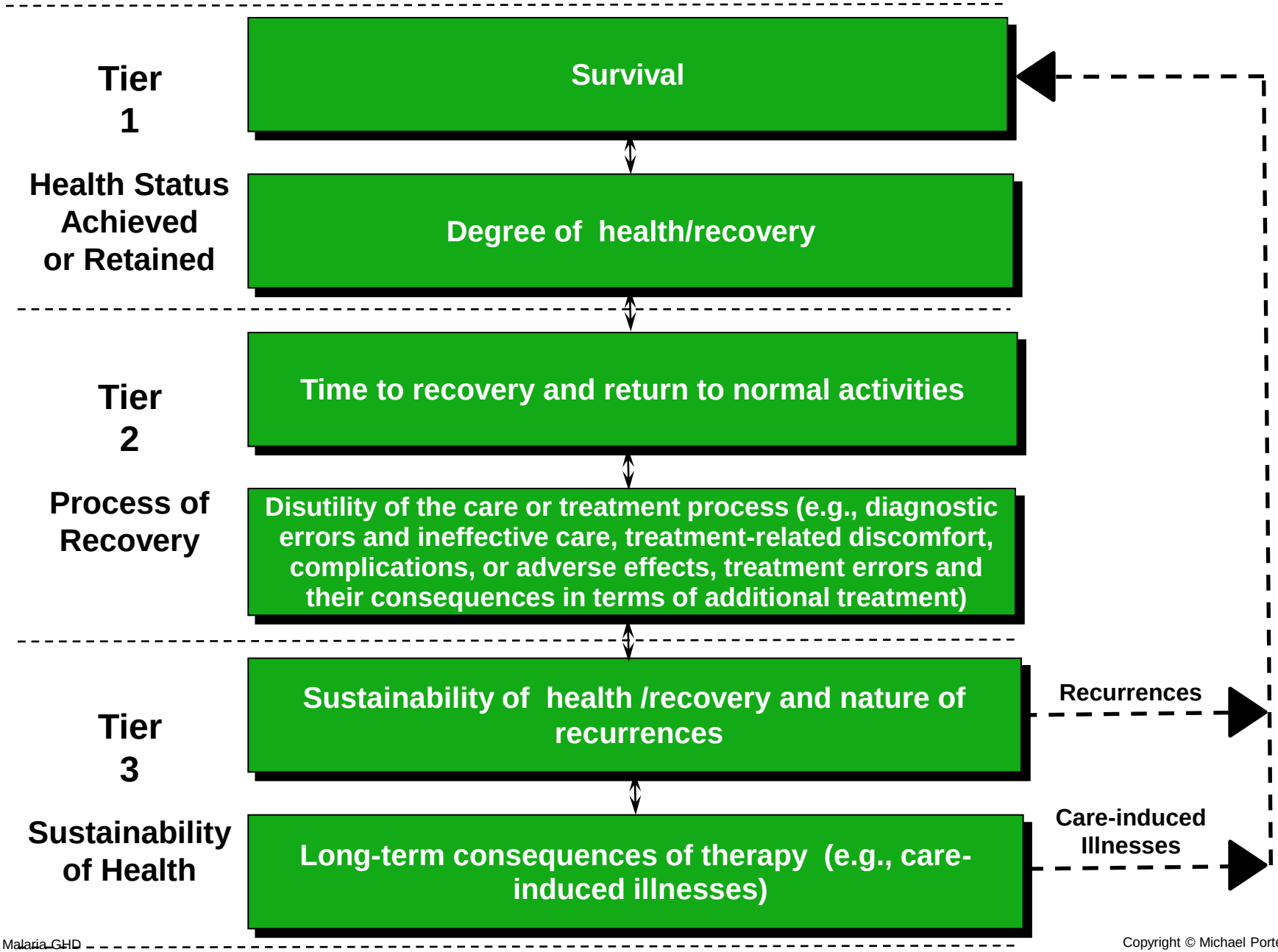
Source: Compiled from The National Board of Health and Welfare Statistical Databases – DRG Statistics, Accessed April 2, 2009.

- **Minimum volume standards** in lieu of compelling outcome information is an interim step to drive service consolidation

2. Measure Outcomes and Cost for Every Patient

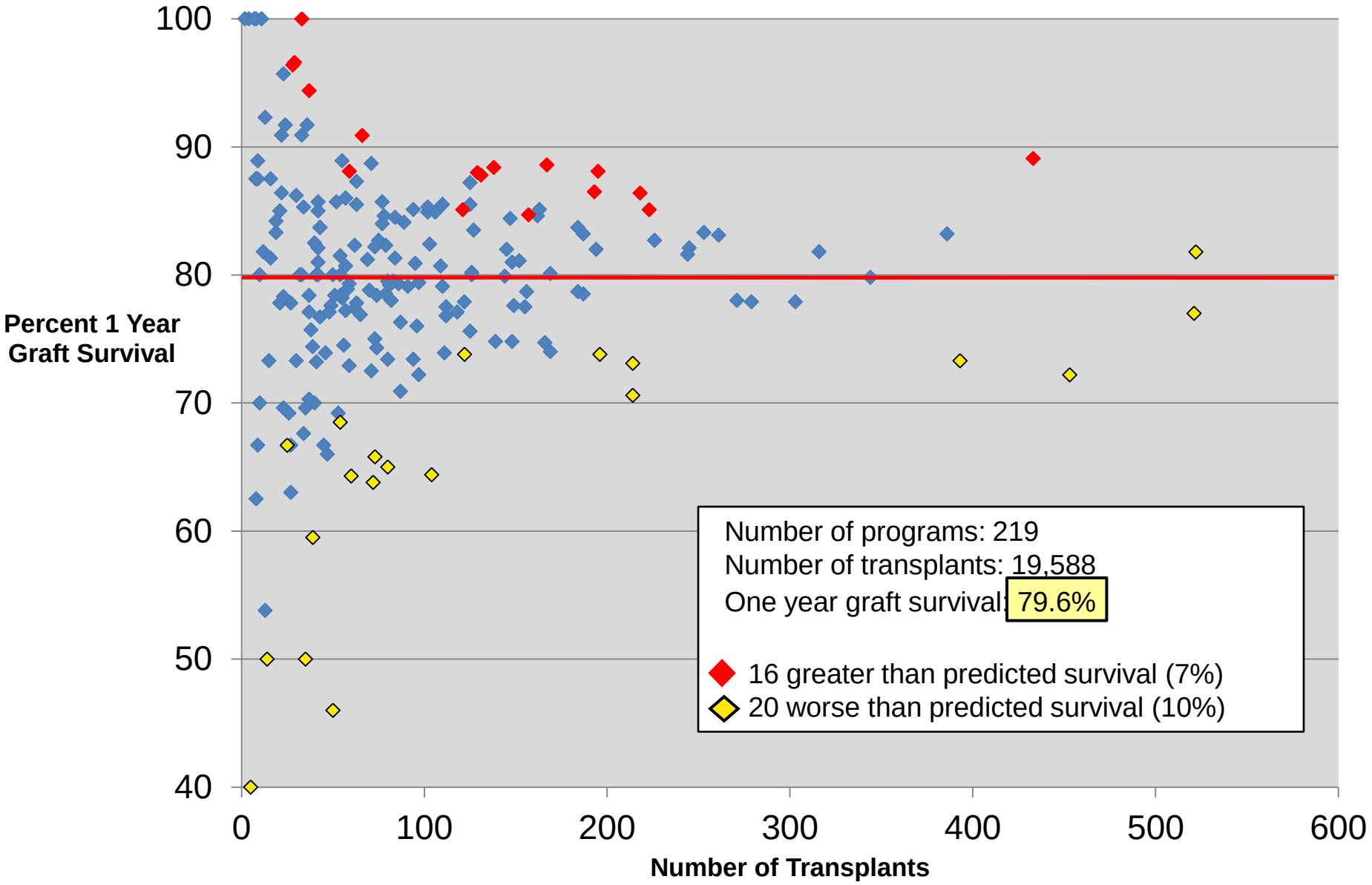


The Outcome Measures Hierarchy



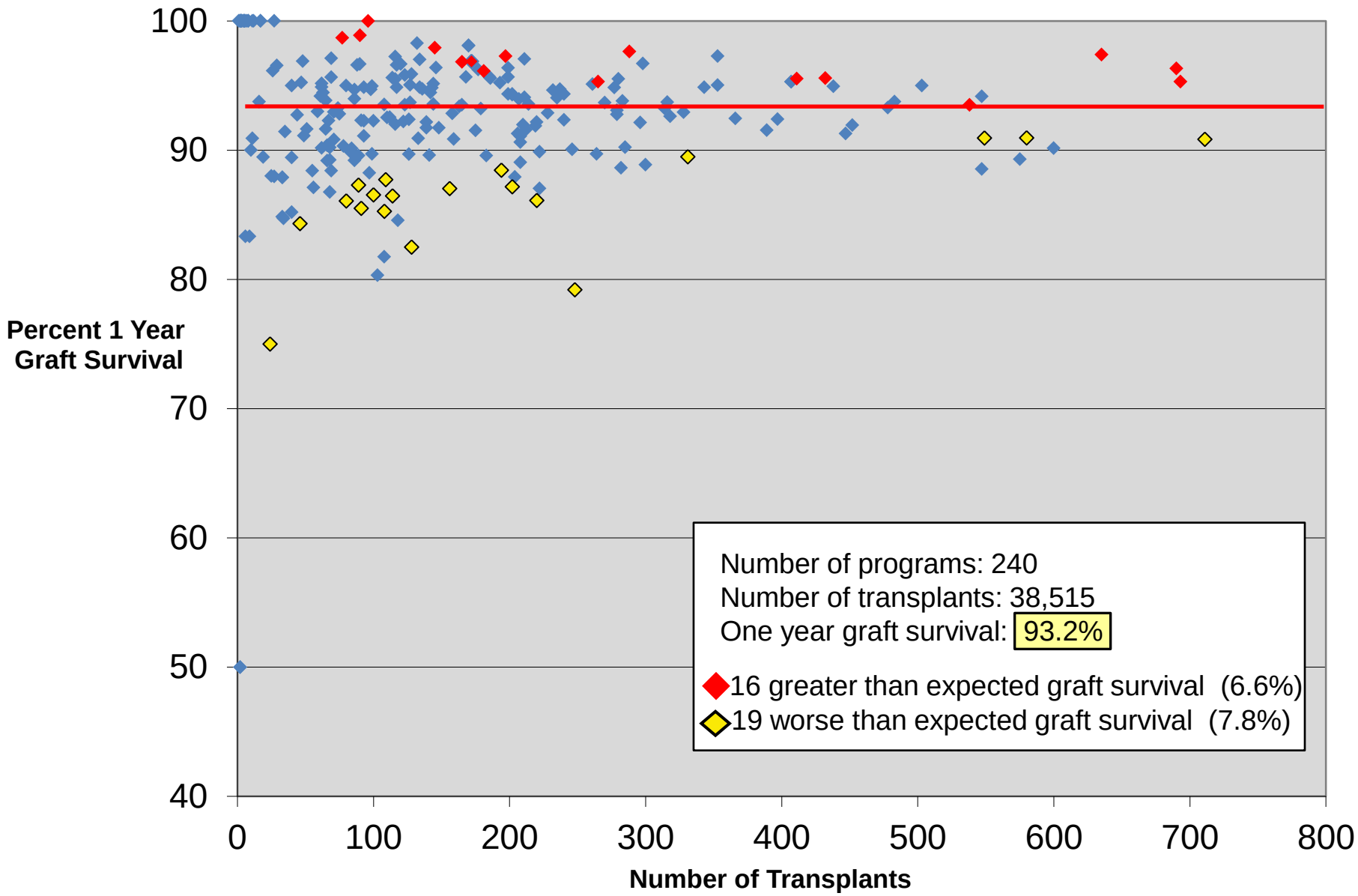
Adult Kidney Transplant Outcomes

U.S. Centers, 1987-1989



Adult Kidney Transplant Outcomes

U.S. Centers, 2005-2007



Measuring Cost in Health Care

- Current cost accounting practices in health care **obscure understanding of the actual costs** of care delivery and **severely compromise** the ability for true cost reduction

Cost Definition Problem

- Costs are widely confused with **charges**, or allocated based on charges

Cost Aggregation Problem

- Cost are measured and aggregated for departments, specialties, discrete services, and line items (billing units)
- Costs should be aggregated for the **full care cycle for the patient's medical condition**

Cost Allocation Problem

- Costs of shared resources are allocated using **averages or estimates**
- Costs should be allocated to **individual patients** based on their **actual use of the resources involved**

- The application of **time-driven activity-based costing** to health care organization reveals structural opportunities for true cost reduction

3. Move to Bundled Prices for Care Cycle
Hip and Knee Replacement in Stockholm, Sweden

- **Components** of the bundle

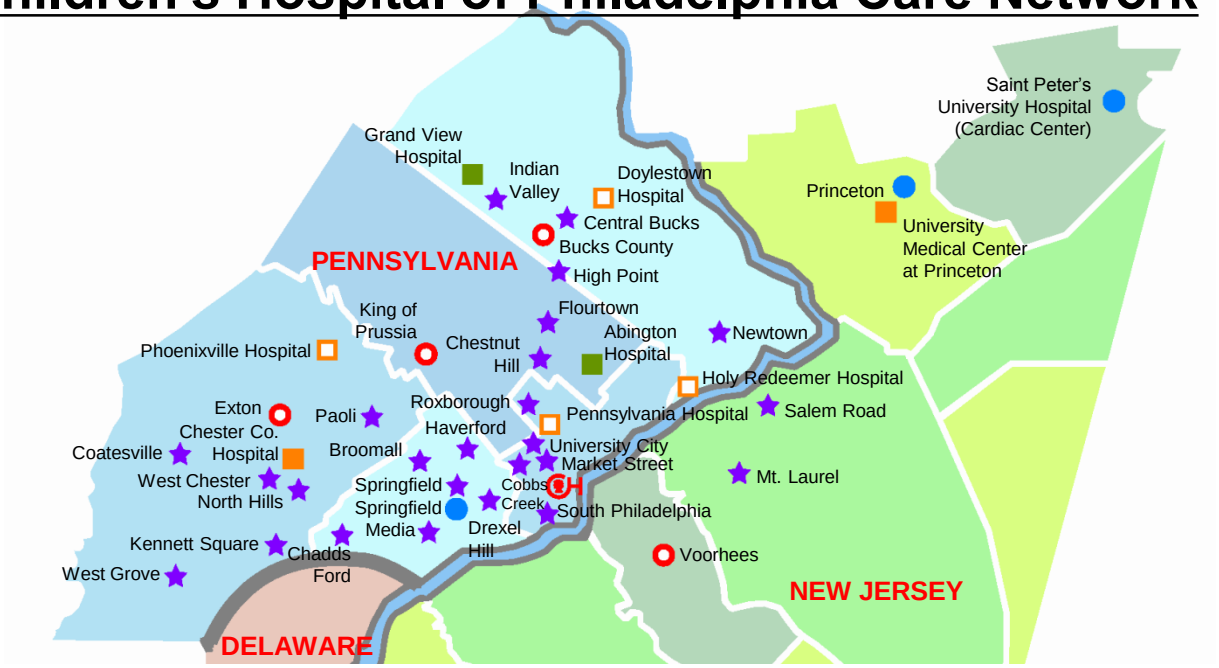
- Pre-op evaluation	- All physician and staff costs
- Lab tests	- 1 follow-up visit within 3 months
- Radiology	- Any additional surgery to the joint within 2 years
- Surgery & related admissions	
- Prosthesis	- If post-op infection requiring antibiotics occurs, guarantee extends to 5 years
- Drugs	
- Inpatient rehab, up to 6 days	

- Applies to all **relatively healthy patients** (i.e. ASA scores of 1 or 2)
- The same **referral process** from PCPs is utilized as the traditional system
- **Mandatory reporting** by providers to the joint registry plus supplementary reporting
- Provider participation is **voluntary** but all providers are involved

- The bundled price for a knee or hip replacement is about **US $8,000**

4. Integrate Care Delivery Across Separate Facilities

Children's Hospital of Philadelphia Care Network

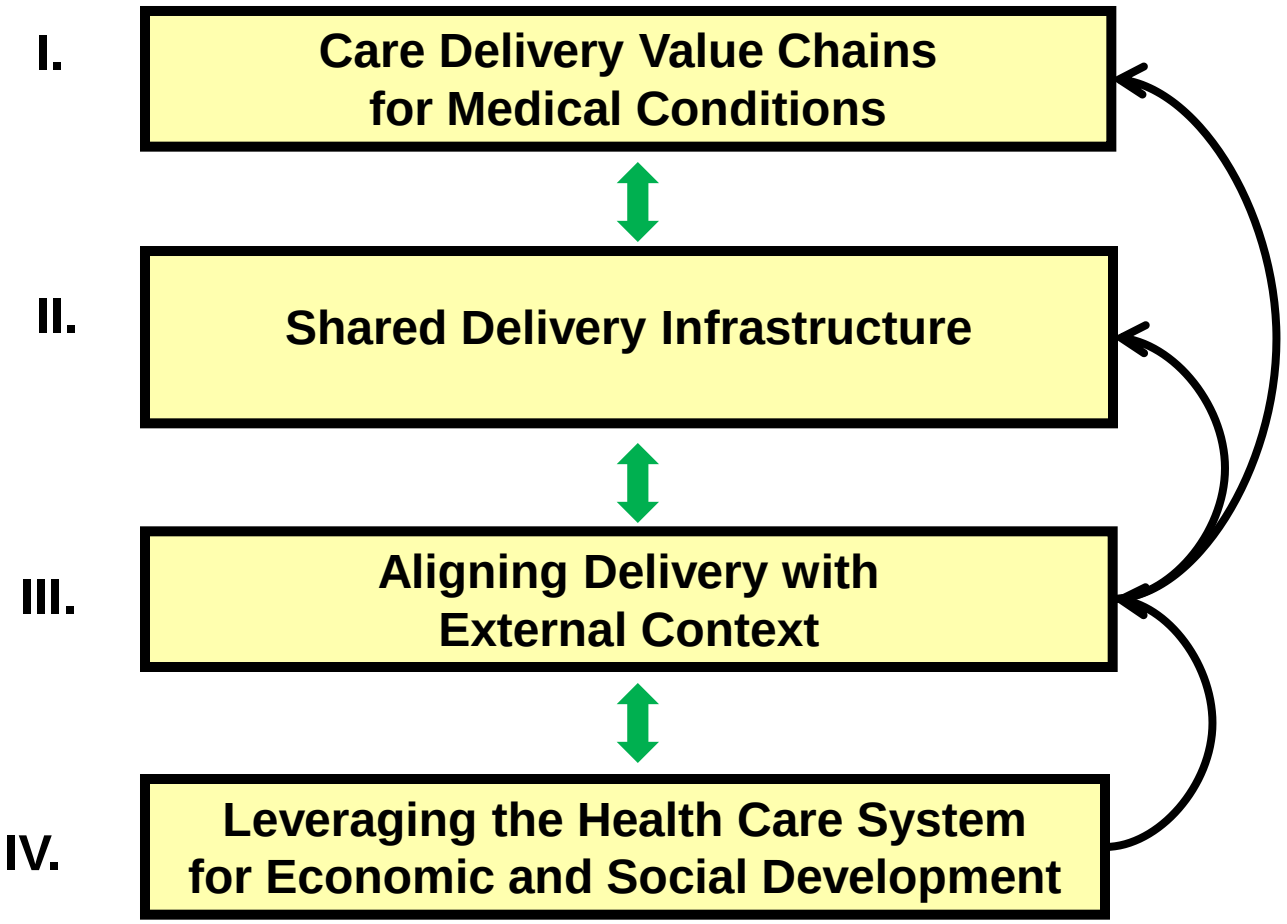


- Choose an overall **scope of service lines** where the provider can achieve excellence
- **Rationalize service lines/ IPUs** across facilities to improve volume, avoid duplication, and deepen teams
- **Offer specific services** at the **appropriate facility**
  - E.g. acuity level, cost level, need for convenience
- Clinically integrate **care across facilities**, within an IPU structure
  - **Expand** and **integrate** the care cycle
  - Better connect **preventive/primary care** units to specialty IPUs

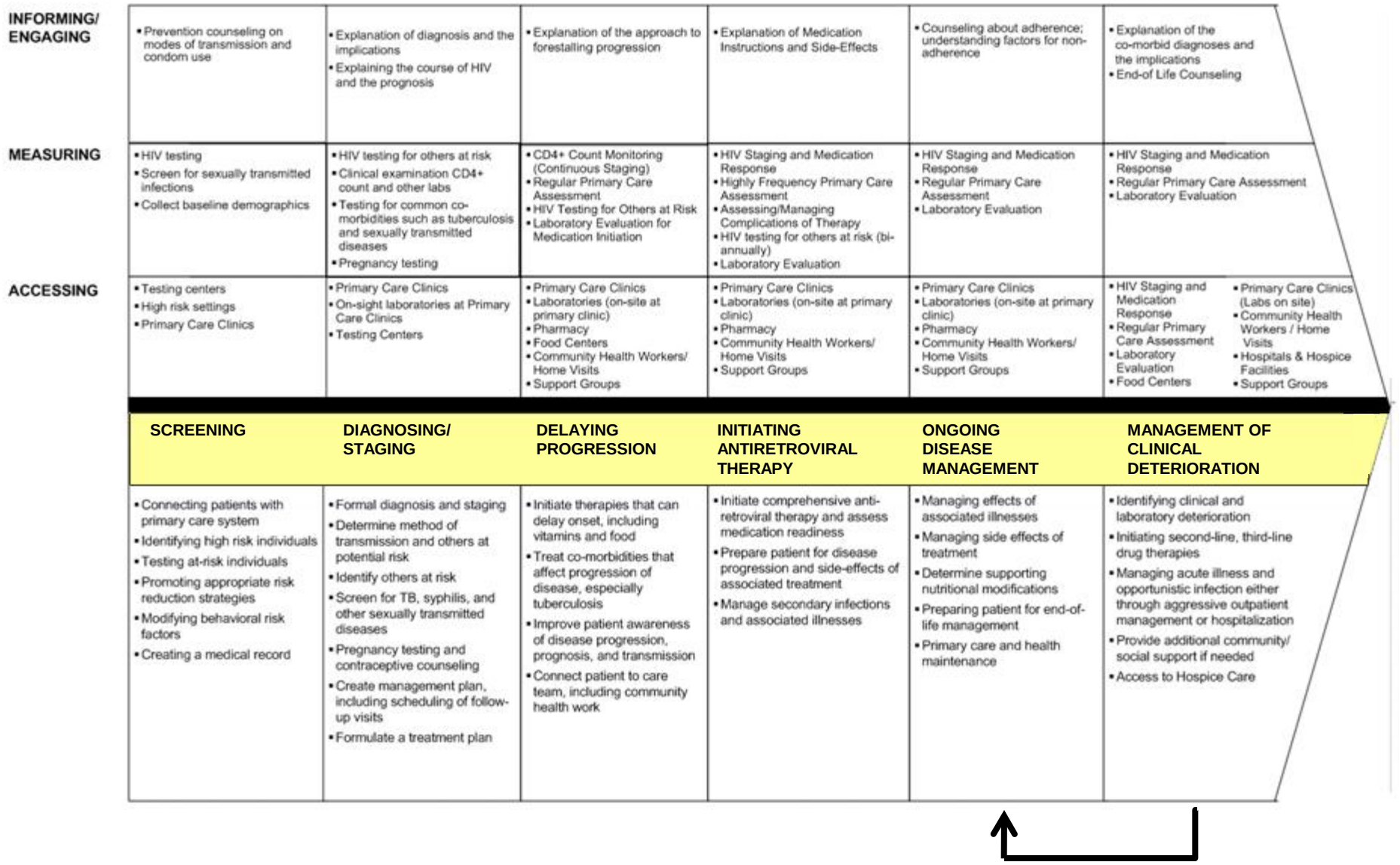
Health Care Delivery in Resource-Poor Settings:
The Need for New Approaches

Current Model		New Model
• The product is **treatment**	→	• The product is **health**
• Measure **volume** of services (number of tests, treatments)	→	• Measure **value** of services (health outcomes per unit of cost)
• Discrete **interventions**	→	• **Care cycles**
• **Individual** diseases	→	• Sets of prevalent **co-occurring conditions**
• **Fragmented, localized,** pilots, programs, and entities	→	• Large scale **integrated** care delivery systems

A Framework for Global Health Delivery

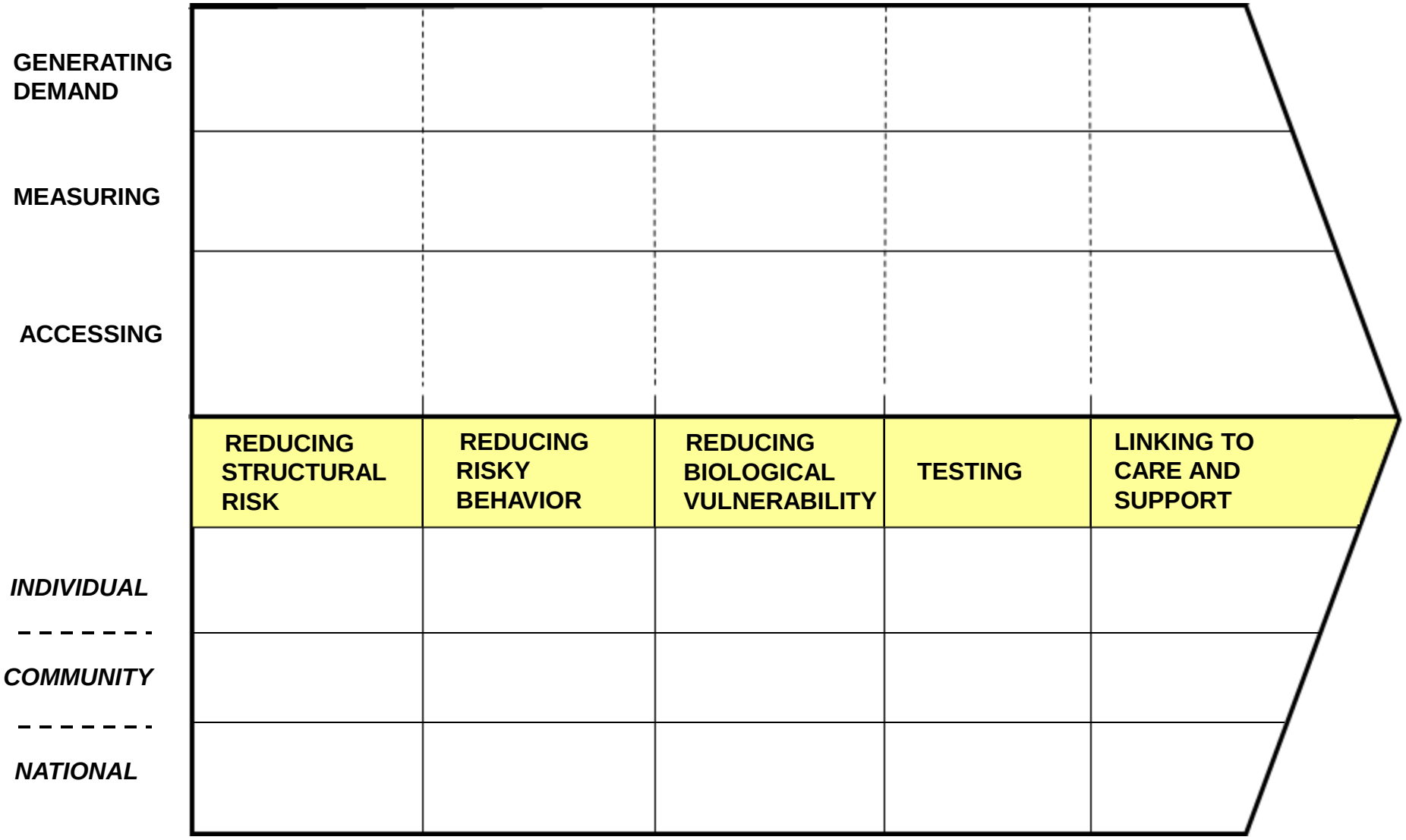


The Care Delivery Value Chain
HIV/AIDS

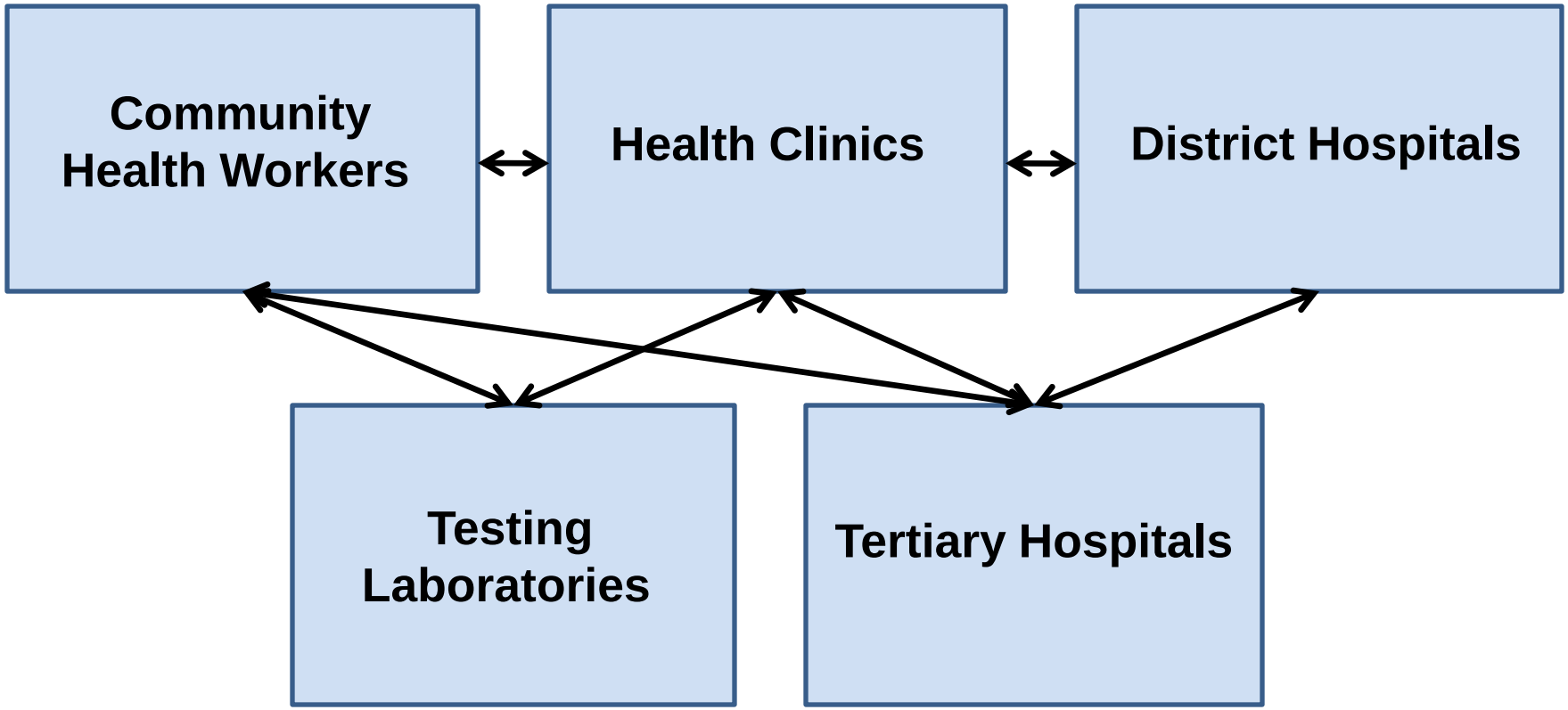


The Prevention Delivery Value Chain

HIV/AIDS



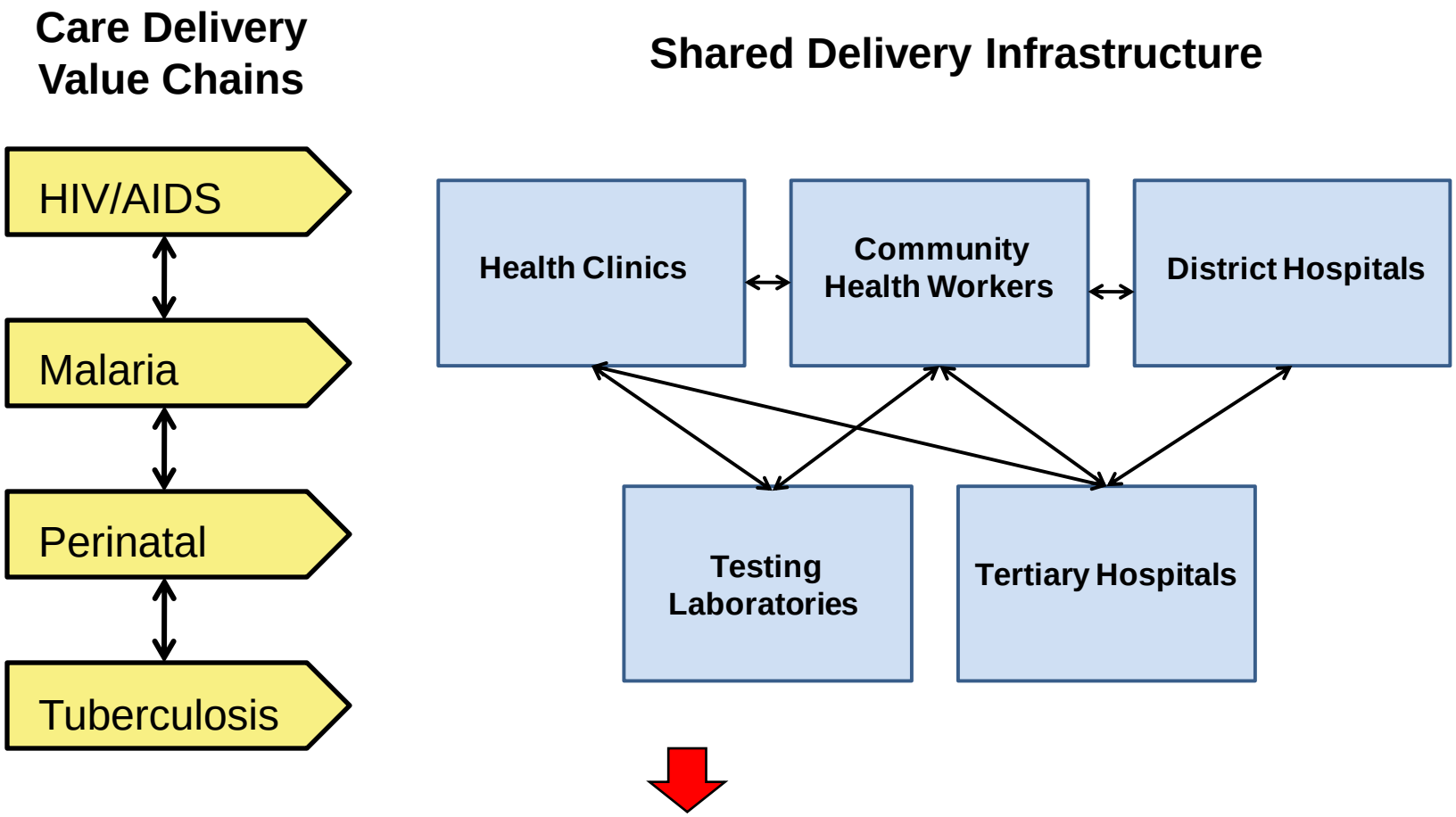
Shared Delivery Infrastructure



Cross Cutting Issues

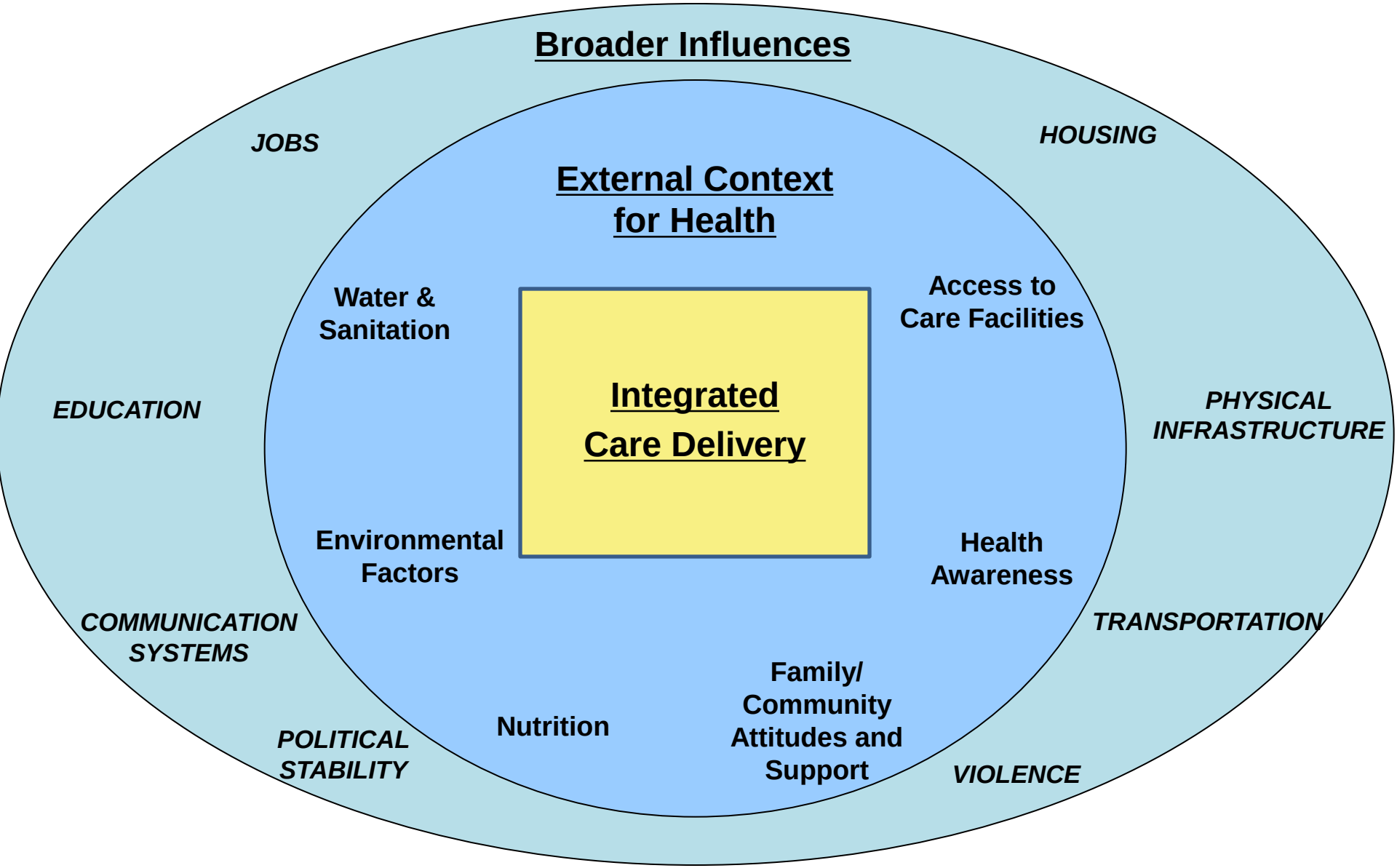
- Supply Chain Management
- Information and IT
- Human Resource Development
- Insurance and Financing

Integrating “Vertical” and “Horizontal”



- **Scope of services** at each facility
  - Integrate care across **related diseases**
- Provide care at the **right facility**
- Integrate care **across facilities**

Integrating Delivery and Context



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 improvement (e.g. cell towers, internet, and electrification)

A New Field of Health Care Delivery