What is Value in Health Care?

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Creating a High-Value Health Care System

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

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

 TQM, process improvements, and safety initiatives are beneficial but not sufficient

Defining the Objective Function for Health Care

- Quality
- Safety
- Evidence-based medicine
- Patient satisfaction
- Cost containment
- Equity
- Access



 Currently, a danger sign is that the objective function differs for different actors in the system

Value in Health Care

- Access is the most basic goal of a health care system, but universal access is not enough
- The purpose of health care is to deliver value to patients

Value: Patient health outcomes per dollar spent

- In any field, value must be defined around the customer
- Value should be measured by outputs, not inputs



- How to define and measure value in health care?
- How to design a health care system that continually improves value?

Principles of Value-Based Competition

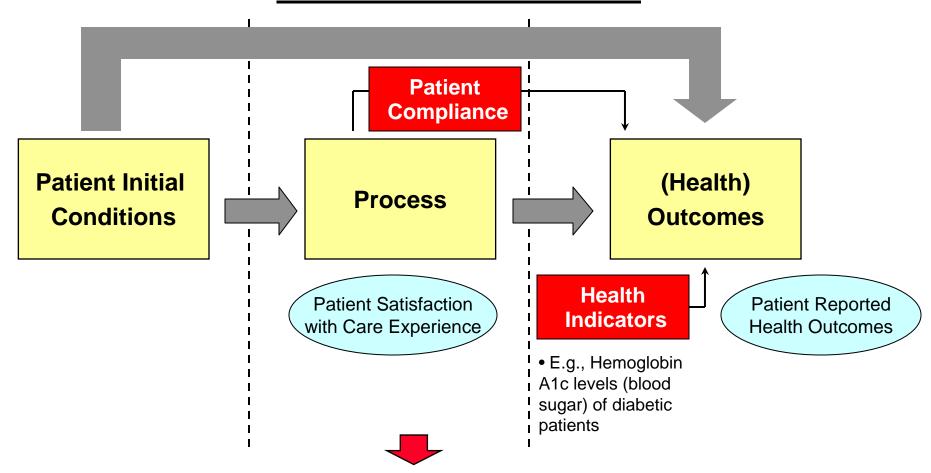
- The best way to contain costs is to drive improvement in quality
 - Prevention
 - Early detection
 - Right diagnosis
 - Early treatment
 - Right treatment to the right patients
 - Treatment earlier in the causal chain of disease
 - Fewer mistakes and repeats in treatment

- Fewer delays in the care delivery process
- 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

Measuring Value in Health Care Outcomes versus Processes



- Process compliance is not quality
- Process compliance is not value
- Process compliance leaves out crucial influences on value
- Process compliance tends to freeze or assume current delivery structures

Measuring Value: Unit of Analysis

- The appropriate unit for measuring value must align with how value is created for patients
 - Across services
 - Across time
- Value should be measured for medical conditions over the cycle of care
 - vs. for hospitals, practices, or clinics
 - vs. types of service (e.g. inpatient, outpatient, tests, rehabilitation)
 - vs. for interventions or short episodes



 Current efforts suffer from measuring value at differing/ inappropriate levels

What is a Medical Condition?

- 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-occurrences
- Examples
 - Diabetes (including vascular disease, hypertension, others)
 - Breast Cancer
 - Stroke
 - Migraine
 - Asthma
 - Congestive Heart Failure
- The value delivered at the medical condition level is inevitably the joint responsibility of the providers involved



 The value achieved for patient populations at the medical condition level can be meaningfully compared and acted upon

The Cycle of Care Care Delivery Value Chain for Breast Cancer

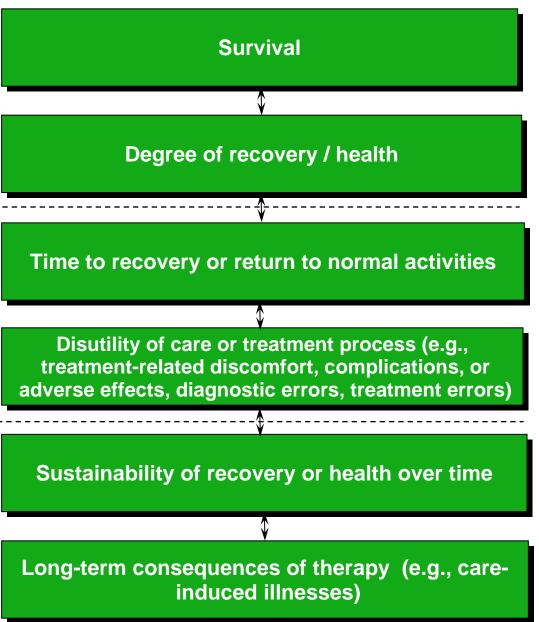
INFORMING & ENGAGING	Advice on self screening Consultation on risk factors	 Counseling patient and family on the diagnostic process and the diagnosis 	supporting	Counseling patient and family on treatment and prognosis	Counseling patient and family on rehabilitation options and process	Counseling patient and family on long term risk management
MEASURING	Self exams Mammograms	Mammograms Ultrasound MRI Biopsy BRACA 1, 2		Procedure- specific measurements	Range of movement Side effects measurement	•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	Office visits Lab visits Mammographic labs and imaging center visits PROPITED REPROPITED REPROPI
	MONITORING/ PREVENTING	DIAGNOSING	PREPARING	INTERVENING	RECOVERING/ REHABING	MONITORING/ MANAGING
	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)	In-hospital and outpatient wound healing Psychological counseling Treatment of side effects (skin damage, neurotoxic, cardiac, nausea, lymphodema and chronic fatigue) Physical therapy	MANAGING Periodic mammography Other imaging Follow-up clinical exams Treatment for any continued side effects
 Primary care providers are often the beginning and end of care cycles 						

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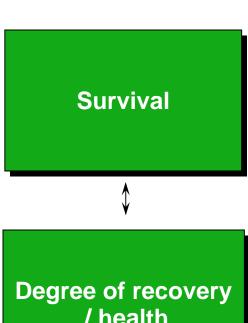
Measuring Outcomes

- There are multiple outcomes for every medical condition
 - Survival is just one outcome
 - Safety is part of outcomes
- The set of outcome measures for a medical condition can be seen as a hierarchy
 - Patients may differ in the weights they attach to each level
 - As care delivery improves, excellence achieved in some measures will shift attention to others

Measuring OutcomesThe Outcome Measures Hierarchy



Measuring Breast Cancer Outcomes



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

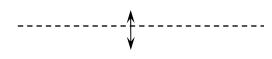
- / health
- Remission
- **Functional status**
- **Breast conservation surgery outcome**

Time to recovery and/or return to normal activities

- Time to remission
- Time to achieve functional status

Measuring Breast Cancer Outcomes, cont'd.

Disutility of care or treatment process (e.g., treatment-related discomfort, complications, adverse effects, diagnostic errors, treatment errors)



Sustainability of recovery or health over time

Long-term consequences of therapy (e.g., careinduced illnesses)

- Nosocomial infection
- Nausea
- Vomiting
- Febrile neutropenia
- Limitation of motion
- Depression
- Cancer recurrence
- Sustainability of functional status

- Incidence of secondary cancers (due to treatment)
- Brachial plexopathy
- Premature osteoporosis

Measuring Breast Cancer Outcomes Initial Conditions

- Stage of disease
- Type of cancer (infiltrating ductal carcinoma, tubular, medullary, lobular, etc.)
- Estrogen and progesterone receptor status (positive or negative)
- Sites of metastases
- Age
- Menopausal status
- General health, including co-morbidities



 As care delivery improves, some initial conditions will decline in importance for outcomes

Measuring Value in Practice

- Measuring value will require tracking outcomes and costs for every patient over time
- Measuring value will have profound benefits, even if not reported publicly
 - Deeper knowledge of outcomes, costs, and initial conditions
 - Compare progress over time
 - Compare performance to all providers
 - Compare performance across individual providers
 (Fragmentation in care delivery today complicates such comparisons)



Process measurement will be most effective when also measuring value

Some Implications for Public Policy

- Universal provider measurement and reporting of the outcomes hierarchy by medical condition/cycle of care
- Universal health plan collection and reporting of medical condition health outcomes for members, including wellness and early detection rates
- Mandatory standards for medical IT systems covering data definitions, interoperability, and database compatibility
 - Including cost accounting rules
- Bundled reimbursement for medical conditions/cycles of care instead of payments for discrete treatments or services
 - Reporting of bundled prices
 - Reimbursement rates should vary based on the true impact of initial conditions to eliminate cherry picking and care fragmentation
- Open competition on value among providers and across geography
 - Compete for patients and referrals, not "pay for performance" bonuses for process compliance