

Disease Management

September, 2013

The Need for Disease Management

- There are myriad trends driving demand for health care, including aging and new technologies. These trends will intensify and place even more pressure on the system over the next two decades as the baby boomers age.
- In a typical market, competitive forces and consumer trends would alleviate much of this pressure by forcing out low-quality, inefficient products and providers.
- However, the health care industry is different, due to the inefficiencies of third-party payor systems, government politics (e.g., Affordable Care Act—Obamacare) with strong constituents, and the (patient) entitlement mindset.
- Such pressures Are coming to a head, forcing patients, payors, and providers to move towards more efficient health care.
- Disease management is a powerful way to address this trend.

Summary of Salient Trends Impacting the Health Care Delivery System

- Expensive Medical Technologies
- Aging of the U.S. Population
- Longer Life Expectancy
- Unwillingness to Accept Restricted Network or to Reduce Health Benefits
- Inefficiency of the Third Party Payor System

Payor System Leads to Significant Inefficiencies

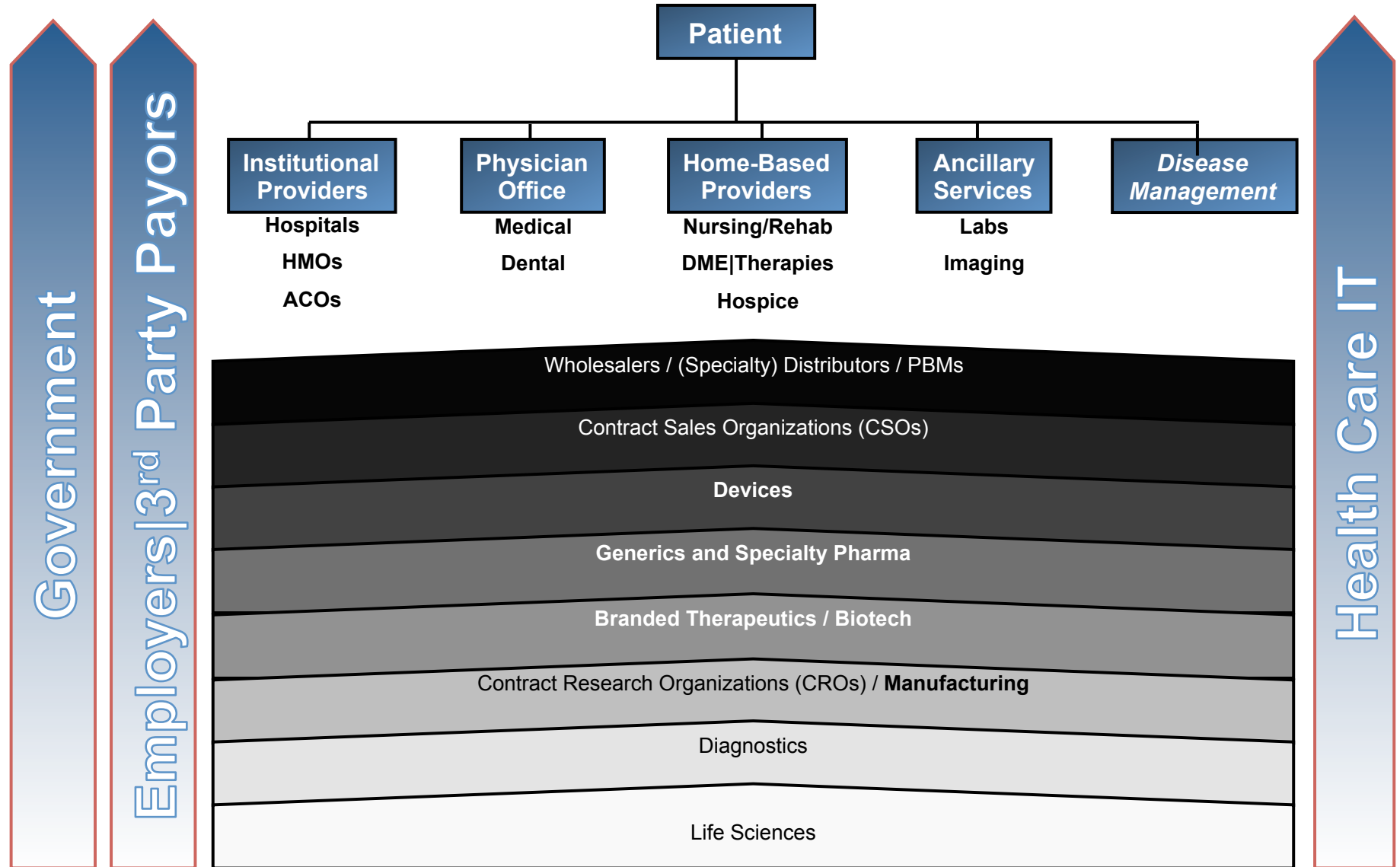
Who would you pay more to see?

- A doctor with 25 years experience, who has performed more than 5,000 cardiac procedures.
- A recent graduate from a residency program who is performing his first post-residency operation.

Which hospital would you pay more to go to?

- The hospital with the lowest infection rates, lowest re-admission rates, lowest mortality rates, etc.
- The hospital with the highest infection rates, highest re-admission rates, highest mortality rates, etc.

Health Care Industry Map Shows the Complexity



Focus Disease Management on Quality Care & Economic Value in the Health Providers' Terms

CONTRASTING DEFINITIONS OF DISEASE MANAGEMENT FOR MEDICAL PRODUCTS

MORE THEORETICAL

Disease management is a comprehensive, integrated approach to care and reimbursement based on the natural course of a disease, with treatment designed to address an illness with maximum effectiveness and efficiency.

In practice there is a broad variation in the meaning of efficiency and effectiveness.

Specifically, a medical products firm's role is to facilitate, but not to DO, disease management

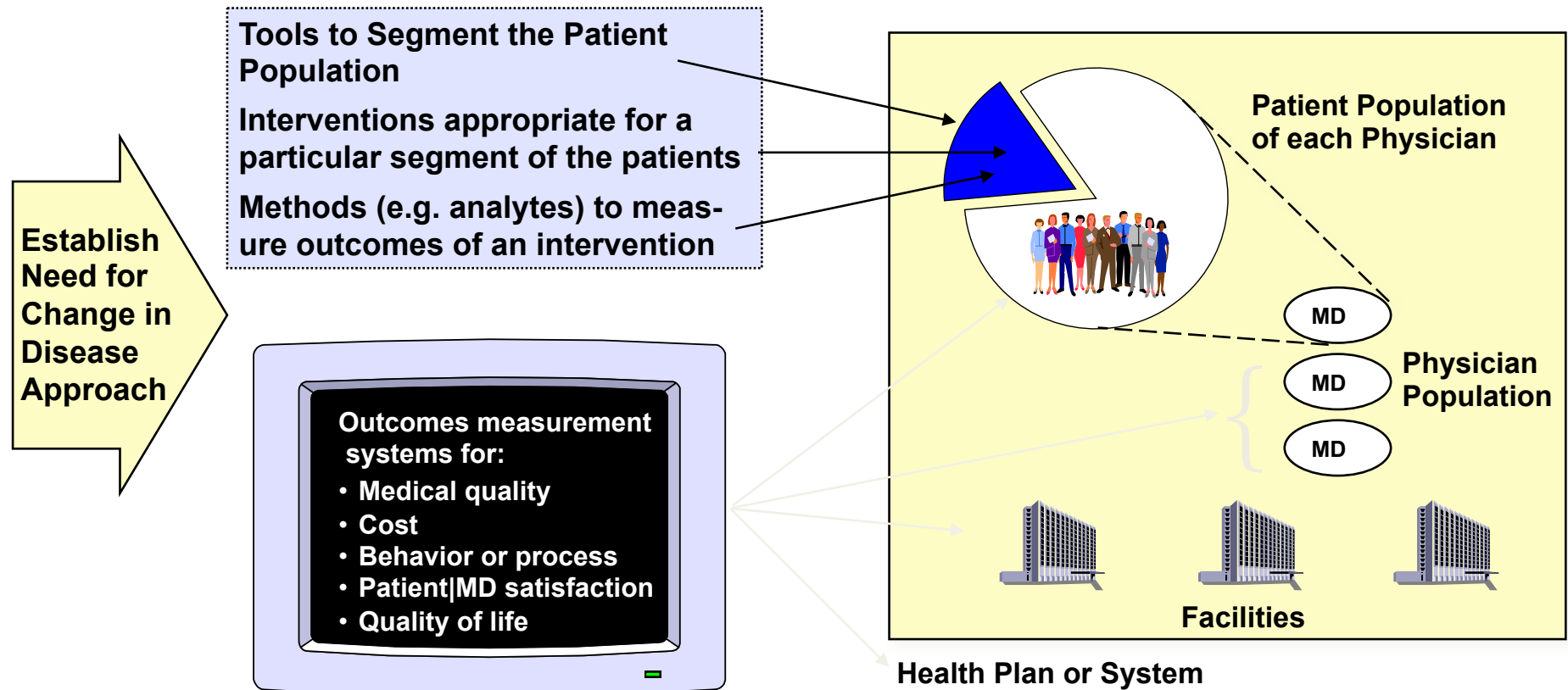


MORE PRACTICAL

Disease management by suppliers is to ASSIST in improving efficiency (lower cost at same quality) and/or improving effectiveness (better quality at the same cost ... or through cost *justification in a resource constrained environment*)

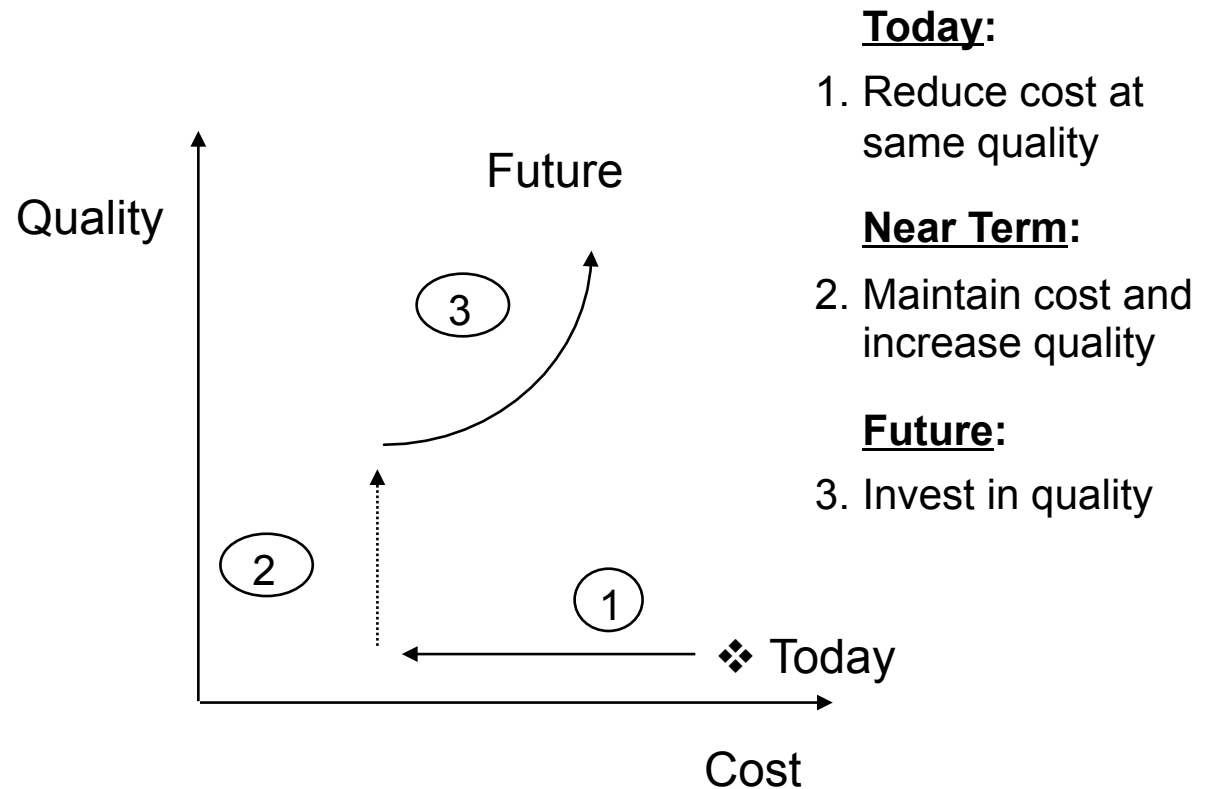
Disease management for medical products \neq Bundling and integrated delivery

Disease Management Conceptual Definition



Focus Moves from Cost Reduction Alone to Rational Expenditure to Increased Quality Care

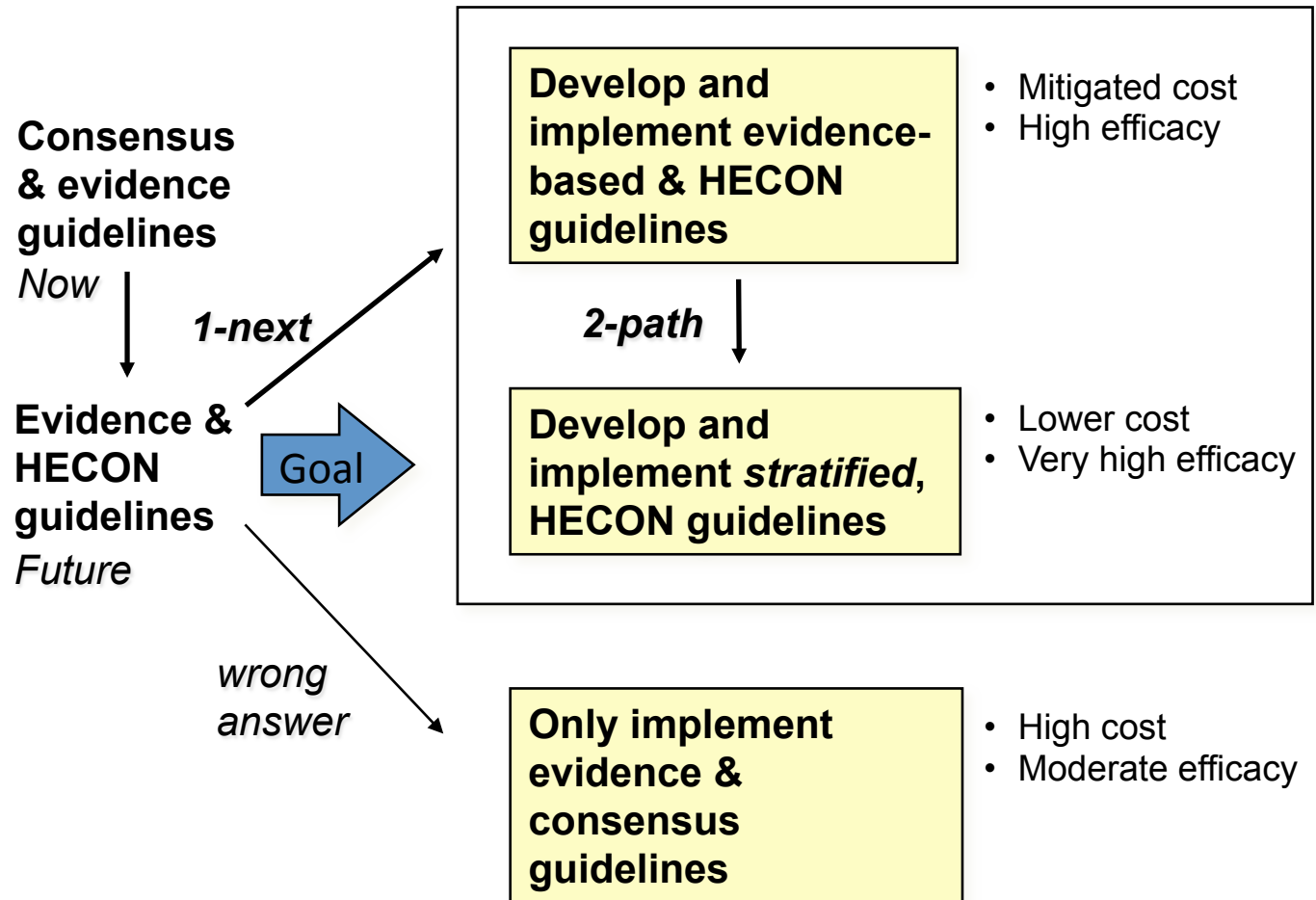
- 1) Today's drive for efficiency will continue to remove much "fat" from existing systems
- 2) Quality improvements will follow through re-engineering of products and processes, driven by a better understanding of health economics.
- 3) Health economics (HECON) will reveal the long-term benefits to all of investing in higher quality health care.



Path to effective disease management Not Only Implementation of Consensus Guidelines

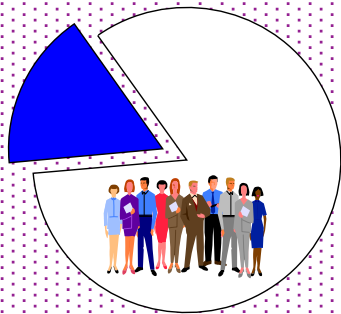
Wide variation in health practice & ensuing outcomes in debilitating and expensive diseases prompted a guidelines push.

Today's guidelines were guide-lines will be valid-ated by research evidence but also established by expert consensus. Next, their efficacy should be assessed in various patient cohorts.



Disease Management Based on Knowledge of Variation between Cohorts & Intervening Suitably

By identifying useful cohort definitions, one will be able to refine (traditional) patient segmentations using customized stratification tools among three dimensions.



Cohort
“A group of persons with a common statistical characteristic”

-- The Concise Oxford English Dictionary

- Age
- Ethnicity
- Stage of disease
- Risk factors
- Reimbursement

Demographic

Physiological

Psychographic

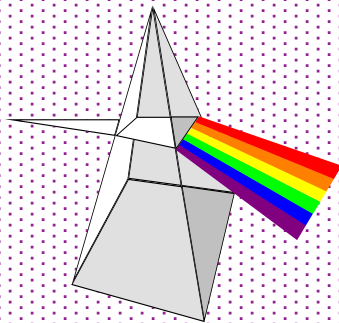
- Genetics
- Concurrent conditions
- Weight

- Depression
- Behavior disorders
- Patient satisfaction

including disease progress

HECON Helps Define Key, Cost-Effective Leverage Points in Treatment of Cohorts

Since both quality and cost outcomes are considerations, simulation likely to help identify key leverage points.



Therapy Regiment A

Fixed Elements

- Genetics
- Age
- Ethnicity
- Stage of disease

Modifiable Elements

- Weight
- Patient satisfaction
- Reimbursement

Mixed Elements

- Risk factors
- Concurrent conditions
- Depression
- Behavior disorders



Therapy Regiment B

Fixed Elements

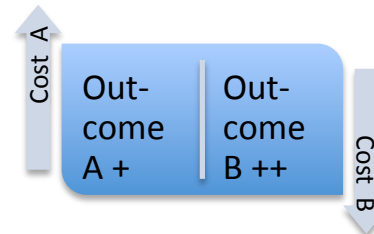
- Genetics
- Age
- Ethnicity
- Stage of disease

Modifiable Elements

- Weight
- Patient satisfaction
- Reimbursement

Mixed Elements

- Risk factors
- Concurrent conditions
- Depression
- Behavior disorders



e.g., Therapy Regiment B is a greater leverage point than Therapy Regiment A for this cohort