Innovations In The US Healthcare System: Unavoidable Realities, Harsh Truths and Stark Choices

Keynote Address, Blue Cross Blue Shield
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A Few Current Challenges for the US Healthcare System

- 16% of GDP ($1 in every $7)
- escalating and unsustainable fraction of GDP
- highest per capita expenditure in OECD
- $510 billion cost of chronic disease
- 2 million annual hospital-acquired infections
- 2.5 million hospitalizations due to adverse Rx reactions
- shortage of 1 million nurses
- no reserve capacity for disasters, epidemics or pandemics

Pervasive Inefficiencies and Errors in Healthcare Created by Empirical Care and Lack of Robust Outcomes Data

Knowing What Works (Or Doesn't!)

- patients have at best 50:50 chance of receiving most advisable care
- ineffective, redundant and inappropriate care
  - projected 30-50% of healthcare spending
- only 15% of clinical interventions validated by clinical trials/regulatory review
- protracted 15 to 25 yr timeframe for adoption of best practice(s)
- wide geographic variations in quality and cost of care

Improving Care for Patients with Complex Conditions

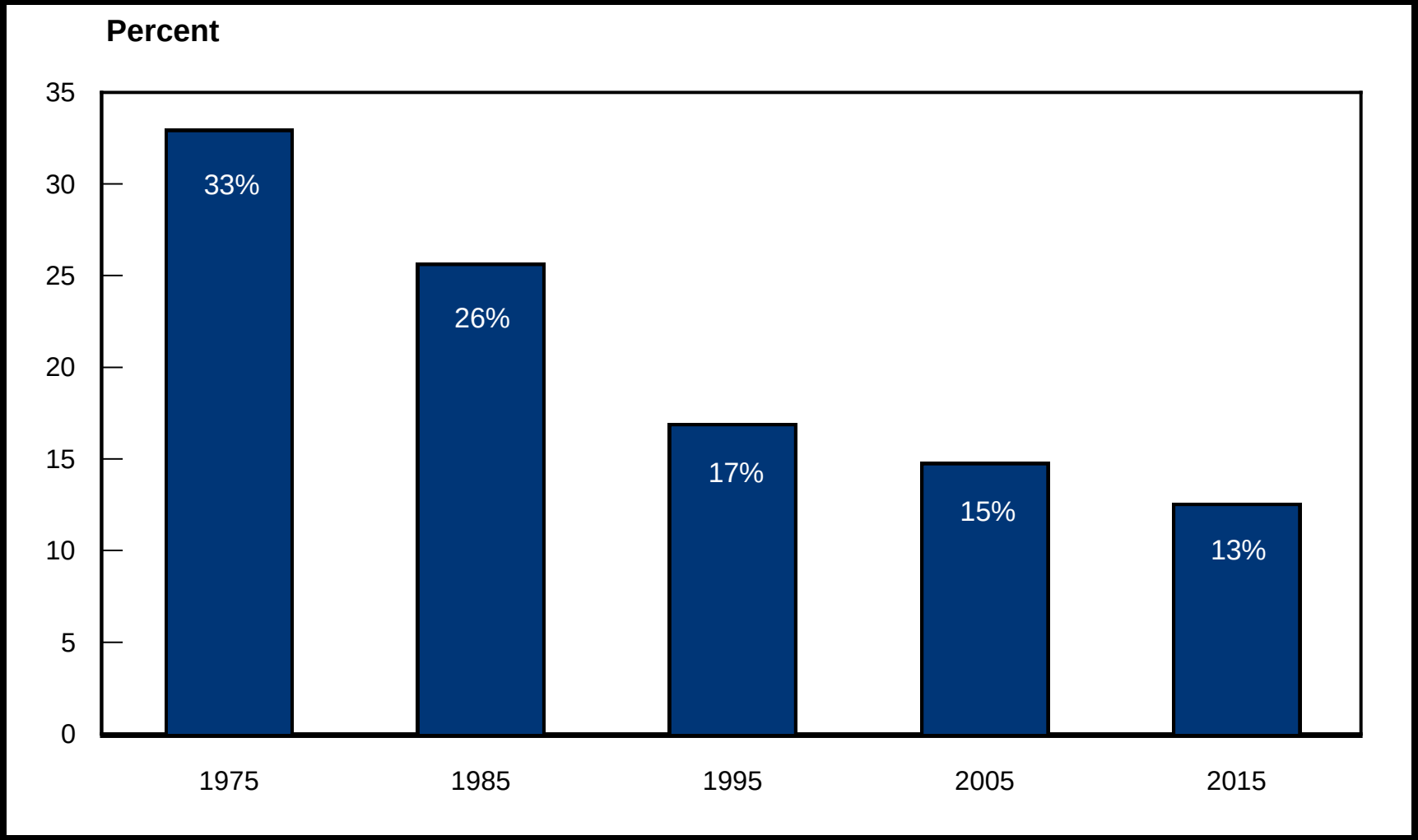
- 23% Medicare beneficiaries have 5 or more chronic conditions
- # 65 year olds as Medicare beneficiaries will double by 2017
- multiple physician/venue encounters
- duplicate testing
- polypharmacy and potentially conflicting treatment strategies
- poor communication of essential clinical information between physicians
- poor regimen compliance by patients
- increased risk of poor quality care and avoidable costs

Healthcare Costs are Unevenly Distributed

- 0.5% patients consume 25% of healthcare budget
- 1% consume 35%
- 5% consume 60%
- 10% consume 70%
- 75% of cost is for patients with chronic diseases

*Source: Healthcare Reform Now
G. Halvorson,
Chairman and CEO
Kaiser Foundation Health Plan and Hospitals
Wiley, NY 2007 p.2

Share of Personal Health Care Expenditures Paid Out of Pocket



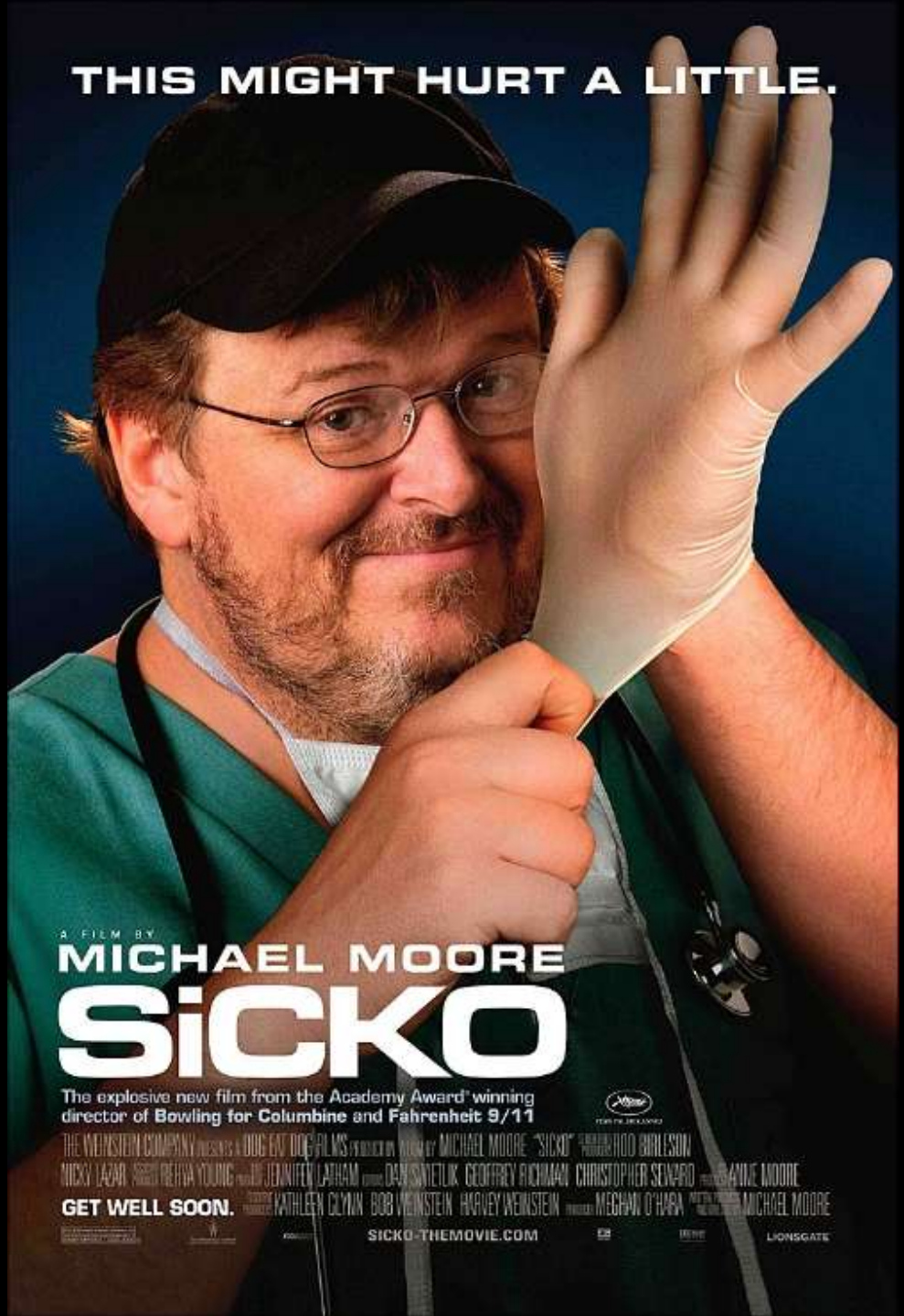
The Management of Expectations in Healthcare

- the entitlement mentality: no limits
- public cynicism of government/corporate motives
- public literacy and comprehension of risk: benefit
  - expect constant progress but zero-risk
- inadequate social and economic incentives for ‘wellness’ and personal responsibility for health

Getting to Value-Driven Health Care

“The mantra of competition based on value is that there is no such thing as a national health care market. What we have is a network of local markets."

Michael O. Leavitt, Secretary
US Dept. of Health and Human Services
November 5, 2007


THIS MIGHT HURT A LITTLE.
A FILM BY
MICHAEL MOORE
SiCKO
The explosive new film from the Academy Award® winning director of Bowling for Columbine and Fahrenheit 9/11
GET WELL SOON.
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LIONSGATE

The Audacity of Hype

Mencken's First Law

"For every complex problem,
there is always a simple solution
and it is almost always dead wrong"

H.L. Mencken

Mencken's (Second) Law

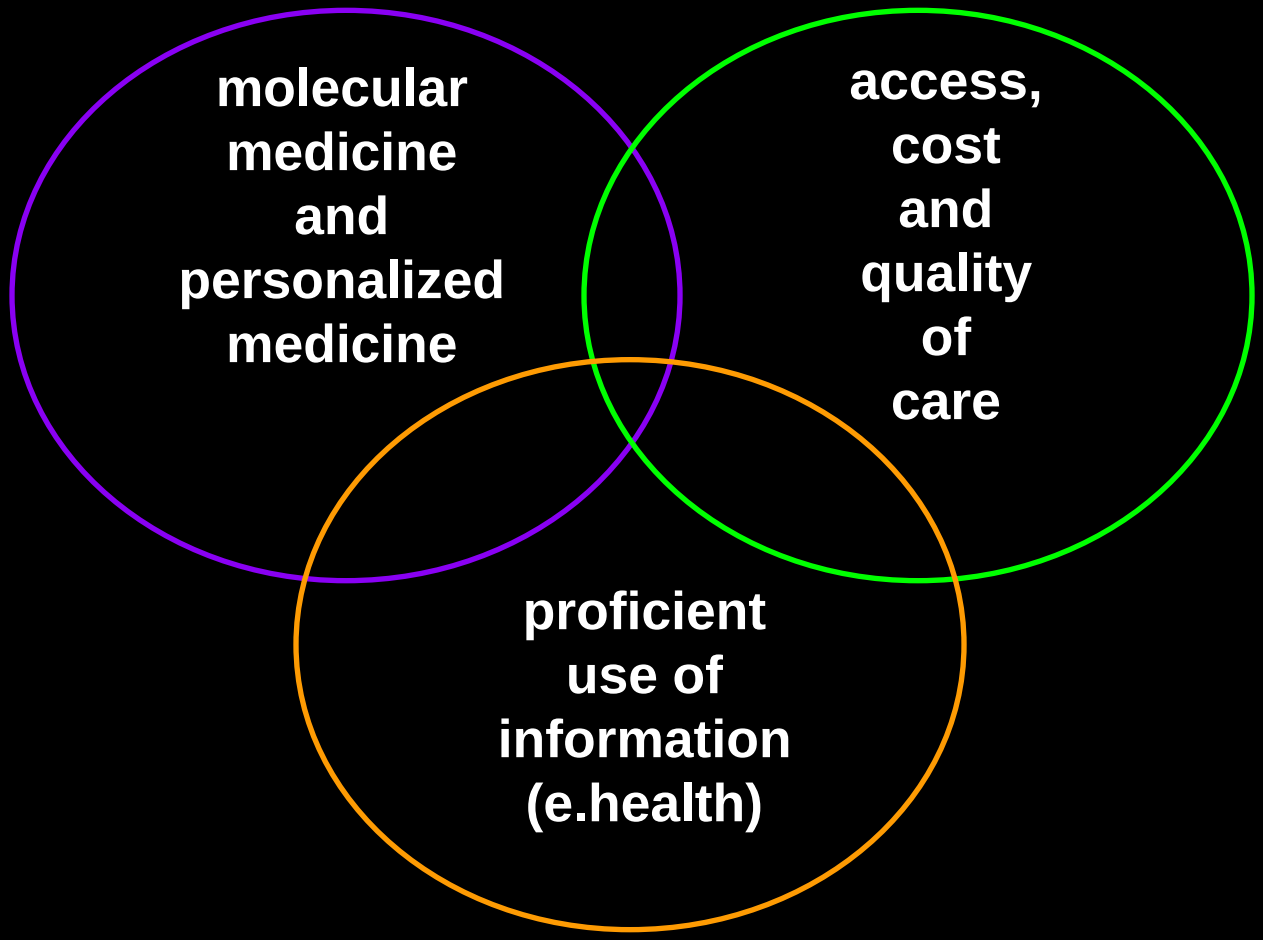
- "Whenever they tell you it's not about the money…..it's about the money."

The Threat Posed by Unconstrained Growth in Healthcare Costs

- fiscal balance of governments
- cost structure of employers/companies
- incomes of individual patients
- inequity in access to care
- eroded quality of care
- rationed end-of-life care
- political inertia and eventual draconian rationing policies

The Strategic Future of Healthcare

The Three Forces Shaping the Evolution of Healthcare



VALUE

Value

- trigger change in clinical behavior

  plus

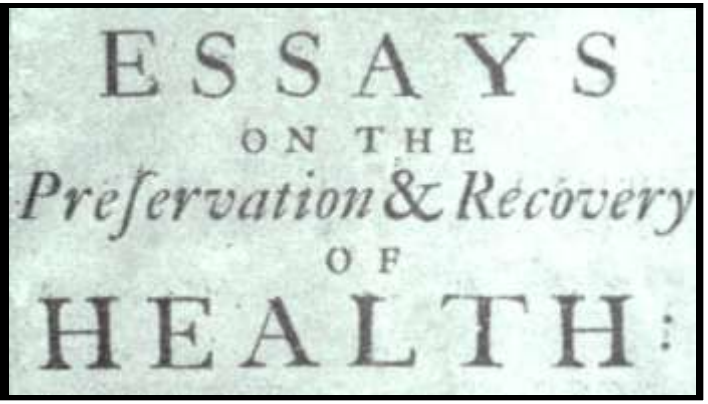
- demonstrable health benefits

  plus

- demonstrable economic benefits
  – direct/indirect

Maintenance of Health and Wellness:
A Critical Economic and Clinical Dimension to Healthcare Delivery

The Principle Intentions of Physick Thomas Curteis (1704)



Key Needs

- earlier detection of disease (pre-symptomatic) or disease progression
- remote monitoring of “wellness”
- instant access to patient information
  - anytime, any place, any patient
- increased personal responsibilities for wellness and disease management

Ignoring The Obvious in Clinical Practice

- diseases are not uniform
- patients are not uniform
- a “one-size fits all” Rx approach cannot continue

- inefficiency and waste caused by empirical Rx
- cost of futile therapy
- medical error and AEs

Personalized Medicine

"If it were not for the great variability among individuals, medicine might be a science, not an art"

Sir William Osler (1892)

Osler Reframed

"Because of the great variability among individuals, medicine must finally become a science, not an art"

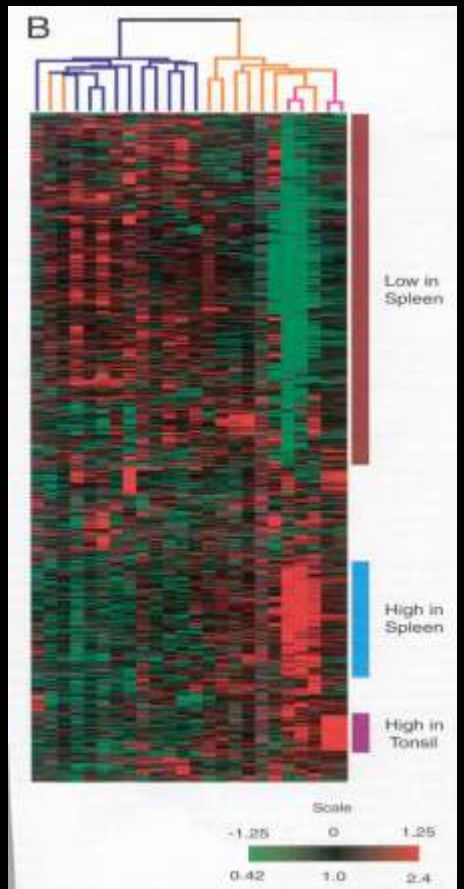
US Healthcare Costs

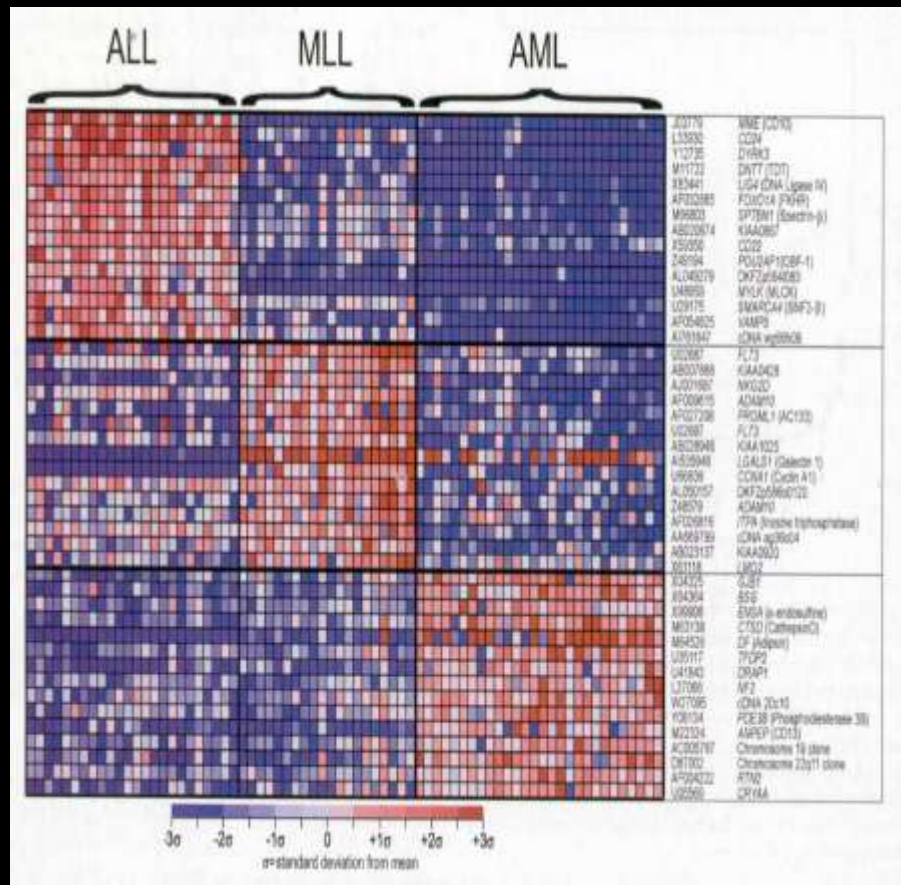
- administration 35%
- personnel costs 35%
- procedures 18%
- drugs 12%
- in vitro diagnostics 0.01%

- Diagnostic Tests (Dx) Influence 85% of Clinical Actions
- From Cost-Based Reimbursement Policies to Full Value-Based Pricing of Nex-Generation Dx

Next-Generation Molecular Diagnostics and Biomarkers

The Fundamental Technology Platforms For Molecular Medicine and Vital Elements of the Future Healthcare Value Chain





“You may believe you’ve been overcharged, but, remember, you’re overmedicated.”

“I think the dosage needs adjusting. I’m not nearly as happy as the people in the ads.”


AVASTIN
(bevacizumab)


Rituxan
Rituximab


Herceptin
trastuzumab


Tarceva
erlotinib
tablets


gleevec
(imatinib mesylate) tablets

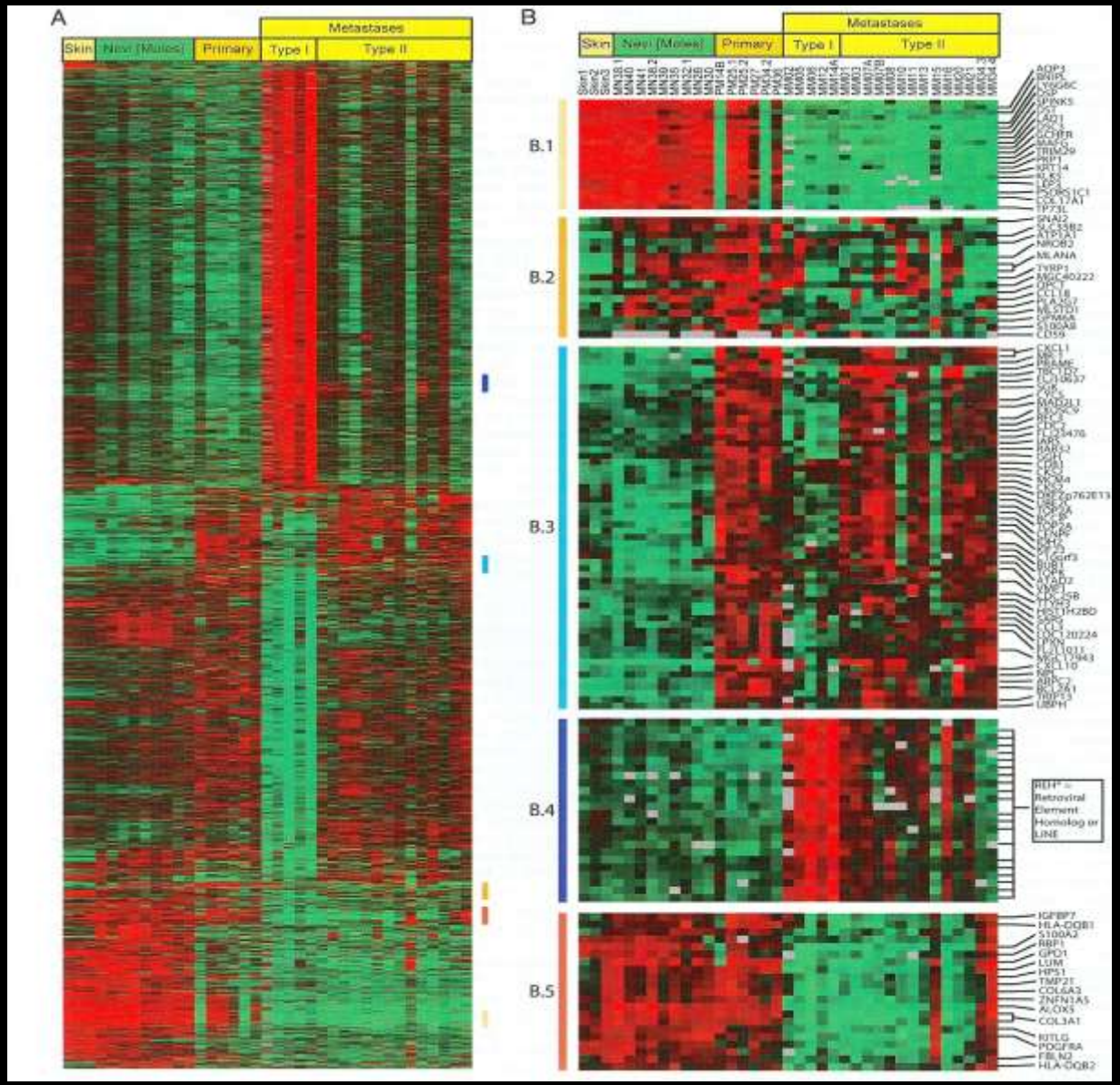

ERBITUX
CETUXIMAB
INJECTION


Nexavar
(sorafenib) tablets


Revlimid
(lenalidomide) capsules


capsules
SUTENT

Disease Subtyping Based on “Molecular Signatures”



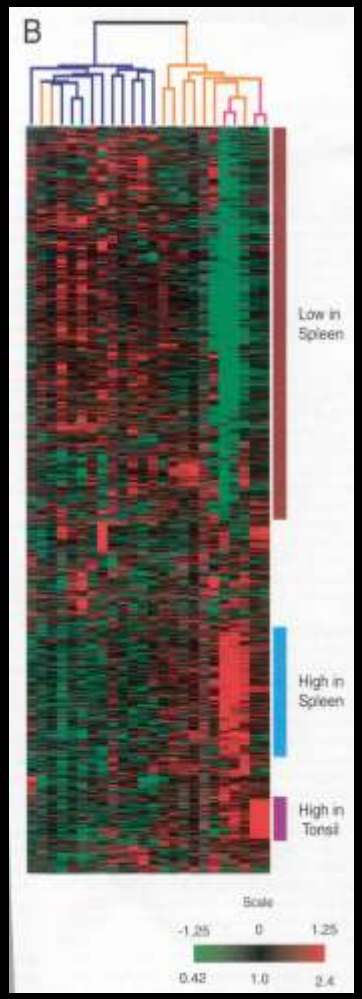
Right Rx for Right Subtype of Disease

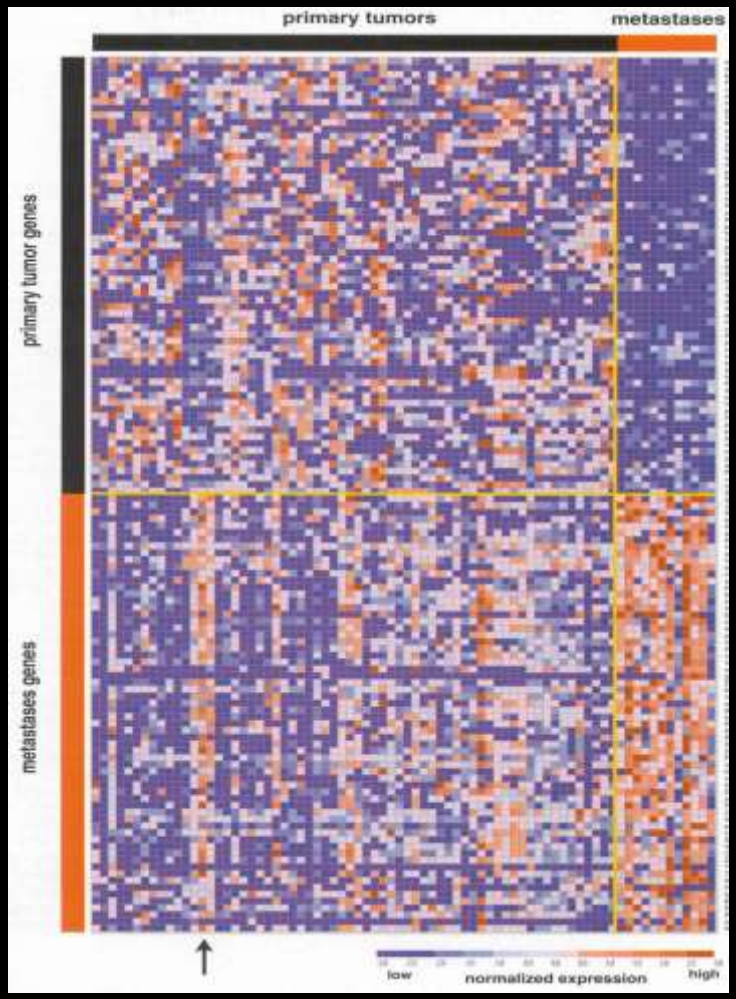
B1 skin, B2, melanocytes, B3, melanoma, B4 and 5 metastatic melanoma
From: C. Haqq et al. (2005) 102, 6092

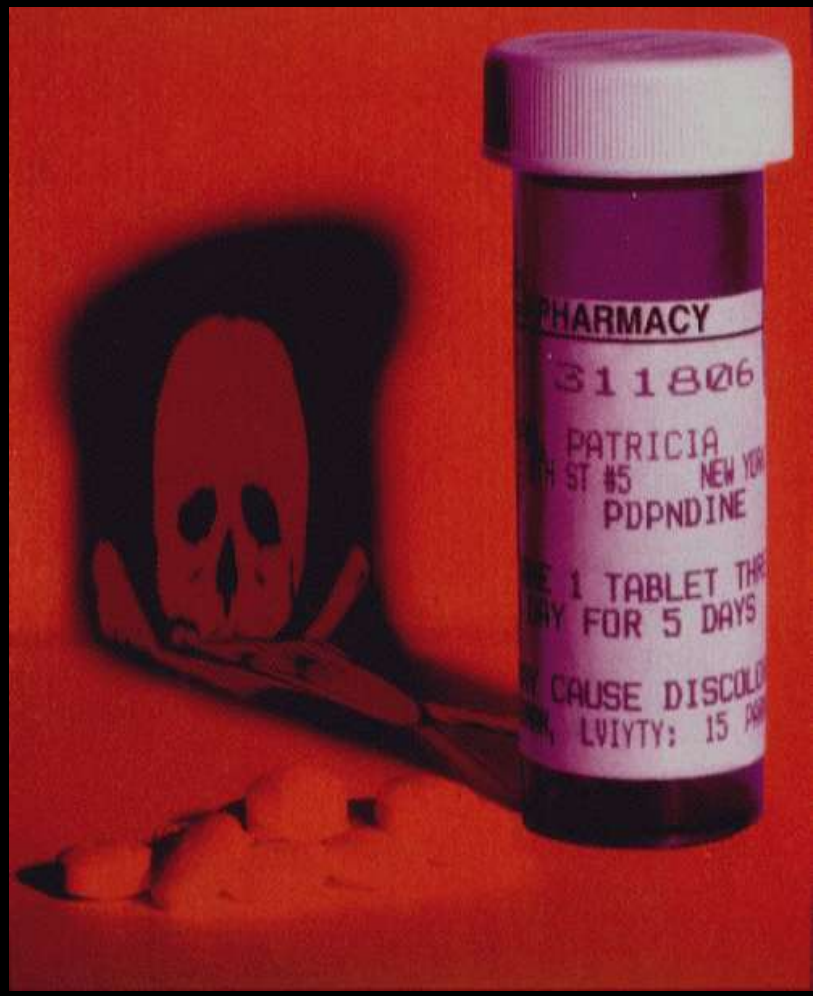
Pharmacogenetic Predisposition to Adverse Drug Reactions

- 1.5 to 3 million annual hospitalizations (US)
- 80 to 140 thousand annual deaths (US)
- est. cost of $30-50 billion

Personalized Medicine:
From Pharmaceuticals to Pharmasuitables







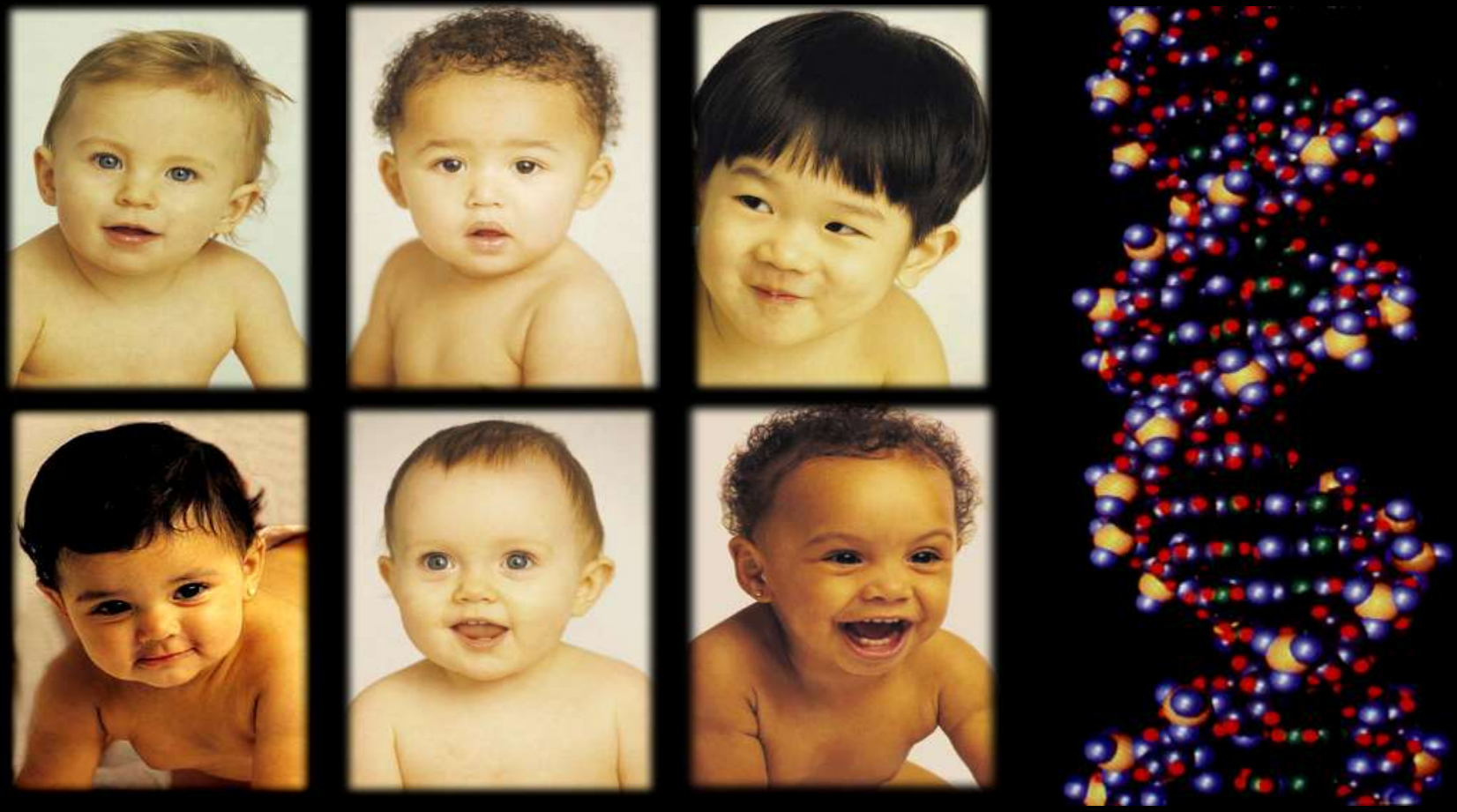
Disease Subtyping:
Right Rx for Right Disease

Reduction of Adverse
Drug Reactions

Reimbursement for Diagnostic Tests

- inadequate US Medicare coding and payment mechanisms
  - out moded, out-dated, lacking in transparency, inconsistently applied
- no effort to link reimbursement to value
- inappropriate assignment of existing CPT codes to new tests
- engagement of third party payers who derive economic/clinical value from new Dx
  - Genomic Health Oncotype Dx

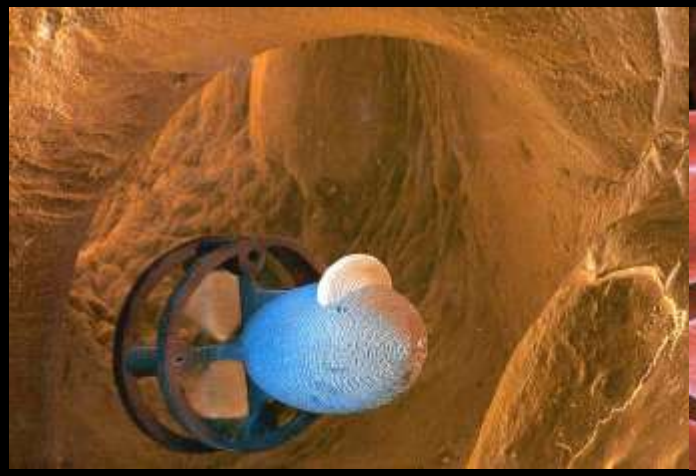
Identification of Predisposition to Future Disease: The Quest for Robust Biomarkers

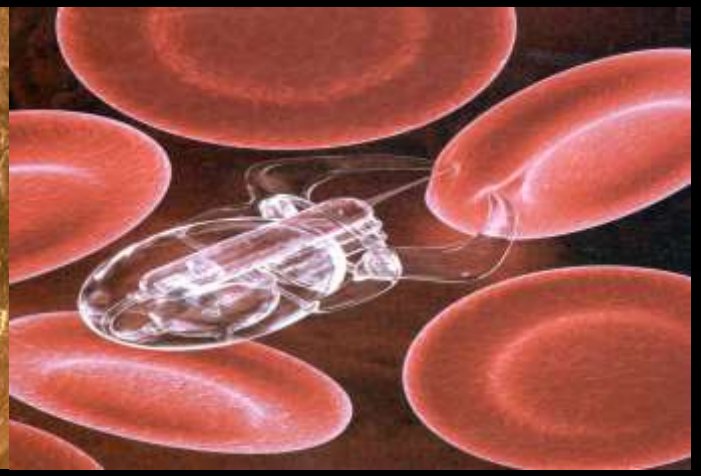


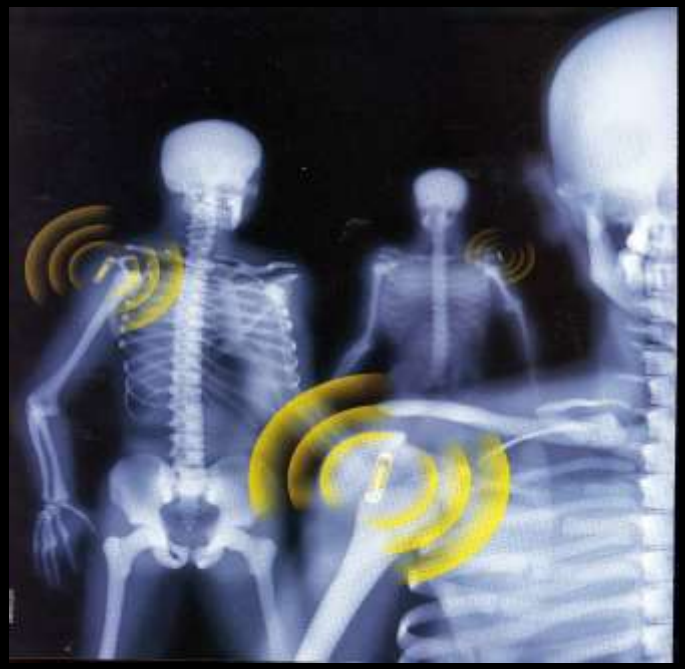
Consumer Genomic Profiling

On Body: In Body (OBIB) Sensors for Real Time and Remote Monitoring of Individual Health Status

On Body: In Body Sensors/Devices





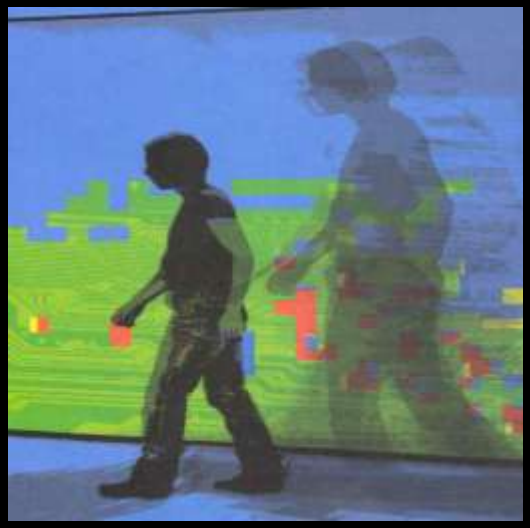


Smart Technology for Aging, Disability and Independence

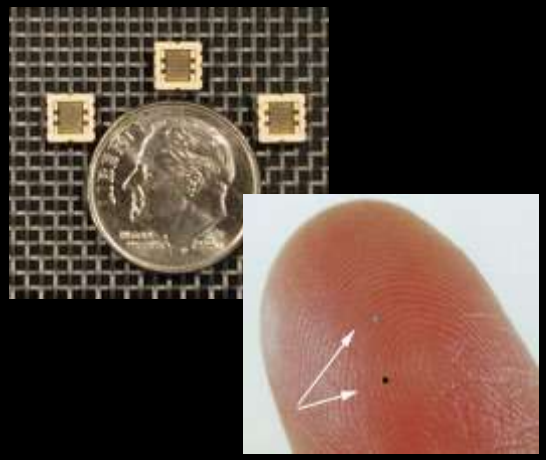
"If I'd known I was going to live this long I'd have taken better care of myself"

James Herbert ("Eubie") Blake
Musician at age 100, in 1983

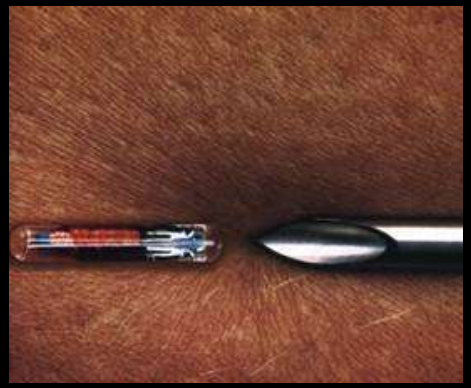
Remote Monitoring of Health Status



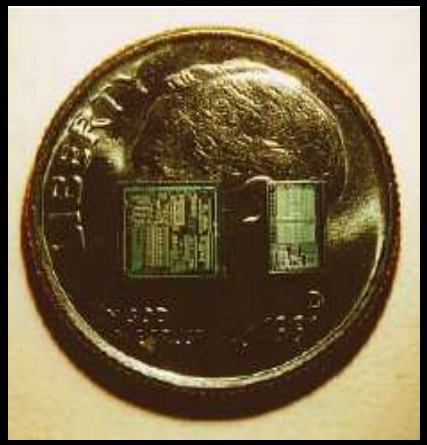
Environmental Sensors



Microtags



In-Body Wireless Tags



Sensor on a Chip

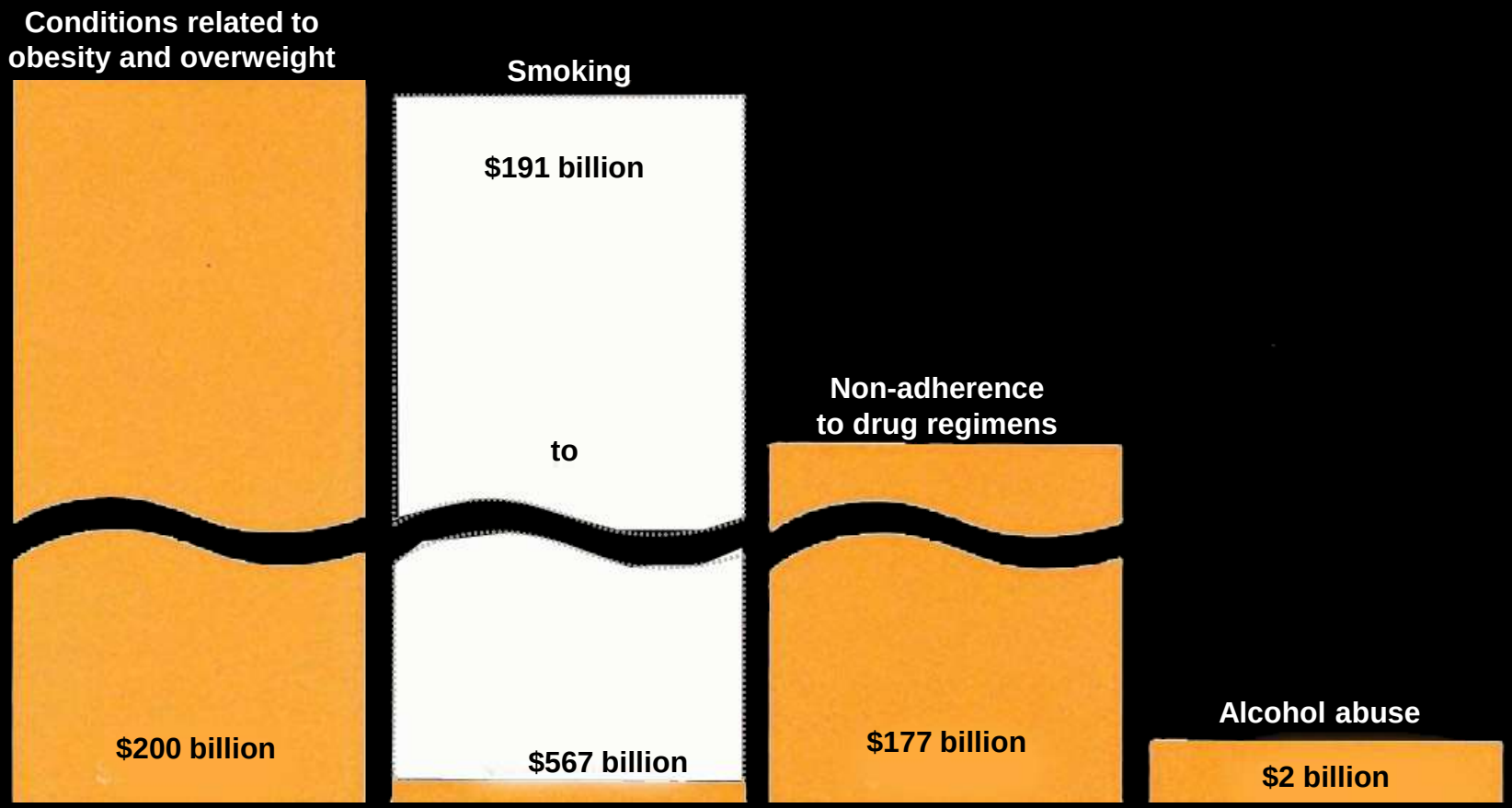
The Costs of Non-Compliance with Rx Regimens

- $177 billion projected cost
- 20 million workdays/year lost (IHPM)
- 40% of nursing home admissions
- projected 45-75% non-compliance (WHO)
- 50% chronic care Rx (WHO)
- 50-60% depressed patients (IHPM)

Smart Pills and Smart Containers: Improving Patient Compliance

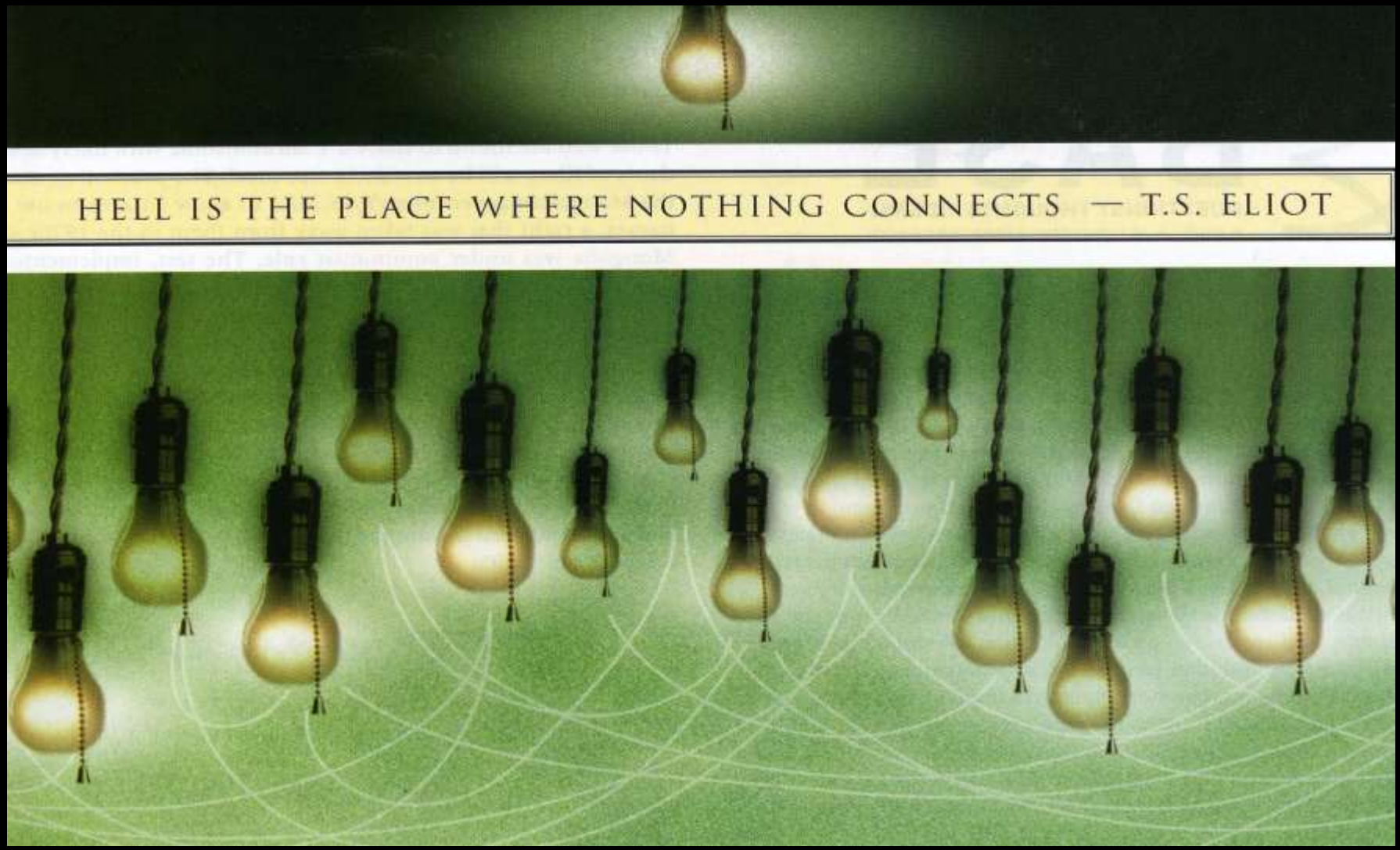
- high definition logos and bar codes
- electronic ID
- covert chemical taggants
- pearlescent coatings
- RFID tags

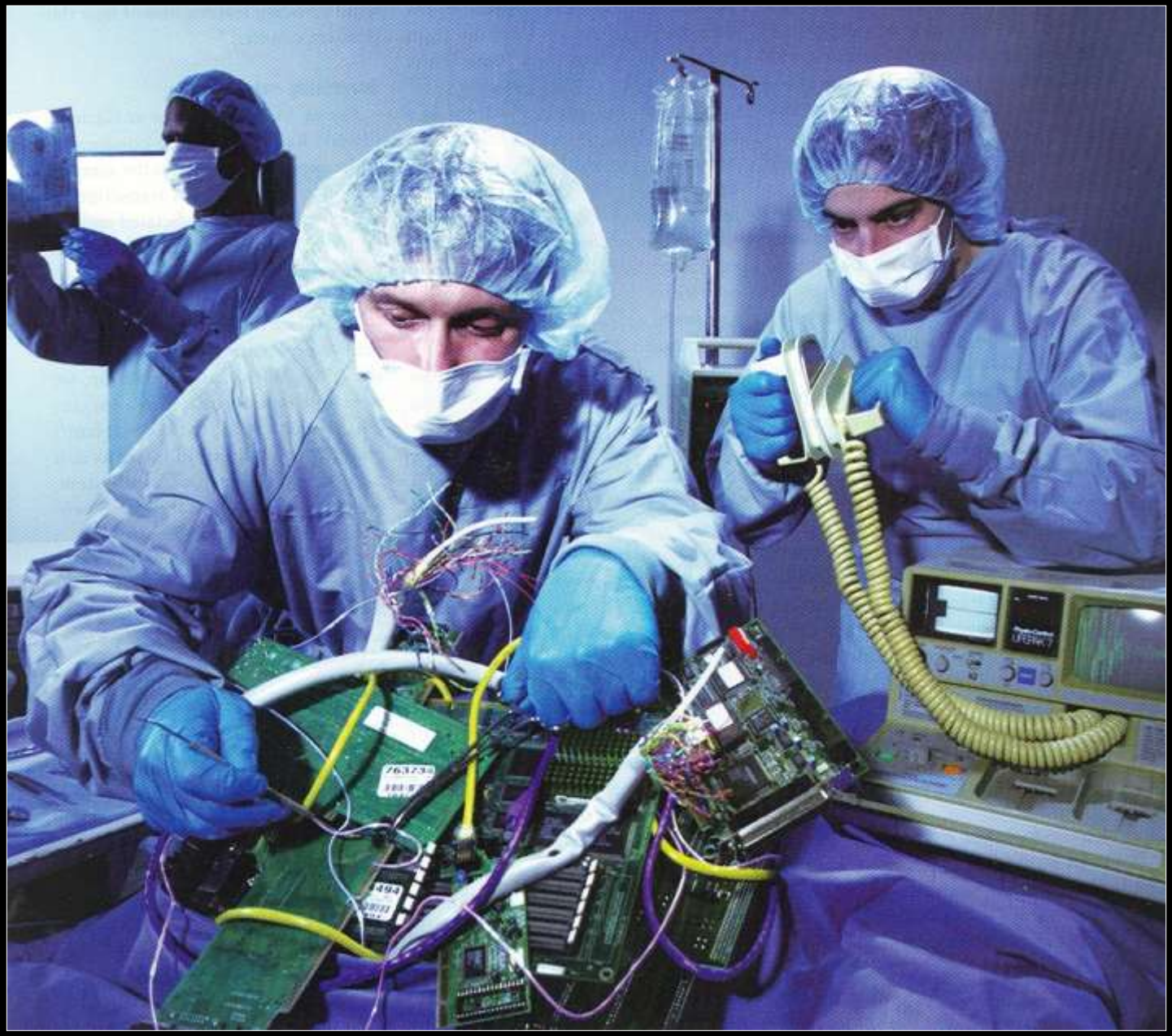
Annual Excess Healthcare Costs Related to Consumer Behavior



Source: RTI International & Center for Disease Control and Prevention (200), Datamonitor (2007), Americas Health Insurance Plans (2007), Commonwealth Fund (2007), Agency for Health Research and Quality (2003), Analysis by PricewaterhouseCoopers' Health Research

Information-Based Medicine





The Unacceptable Cost of Unconnected Healthcare

- cultural, fiscal and legal barriers to transformational electronic connectivity achieved by other sectors
- major obstacle to safe and efficient healthcare delivery
  - extravagant waste via excessive duplication of tests/procedures
  - error via lack of crucial data
  - lack of data capture for outcomes analysis and individual physician performance
- failure to capture population-based disease parameters
  - sentinel public health/national security
  - meta-analysis of outcomes
  - drug and device safety and recall

What Ever Happened to …… ?

- A. S. Relman (1988)
  Assessment and accountability:
  the third revolution in medical care.
  NEJM 319, 1220-1222
- A. Donabedian (1988)
  The Quality of Care:
  how can it be assessed?
  JAMA 260, 1743-48

BlueCross BlueShield Association

An Association of Independent Blue Cross and Blue Shield Plans

The Pathway to Covering America

Ensuring Quality, Value and Access

Seeking ‘Quality’ in Healthcare

AHRQ

DHHS

The Joint Commission

ACP

AMA

HIPAA

Dossia®

Hospital Quality Alliance

JCAHO

IOM

NCQA

CMS

Leapfrog

HITSP

H-CAPHS

HEDIS

ATA

BlueCross BlueShield Association

AHIMA

Tax Relief And Health Care Act (TRHCA)

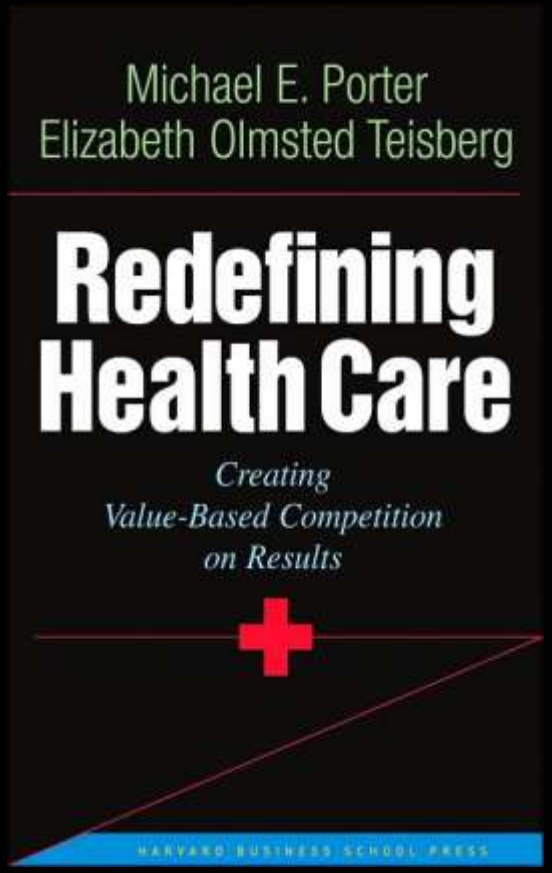
National Quality Forum

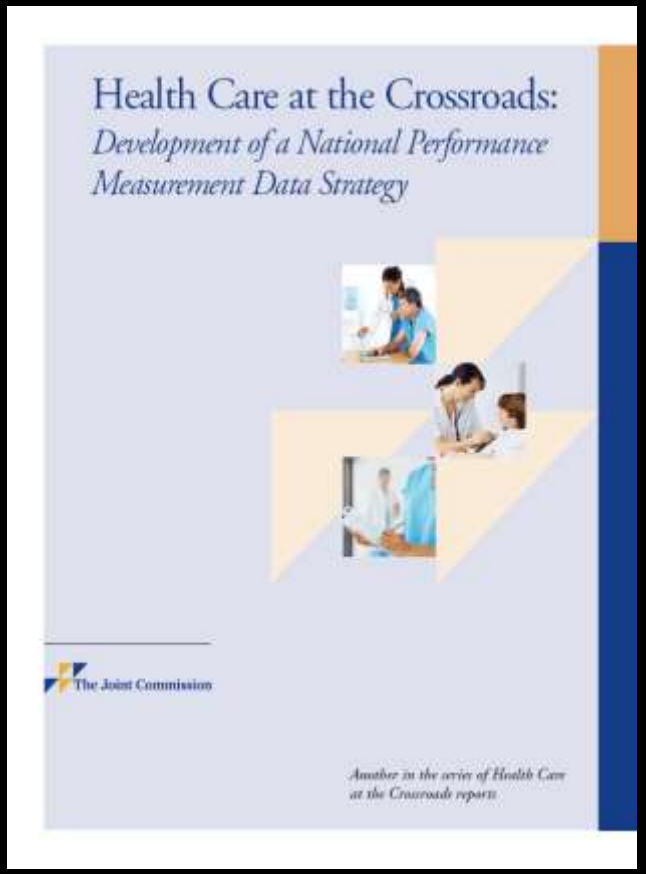
Certification Commission for Healthcare Information Technology (CCHIT)

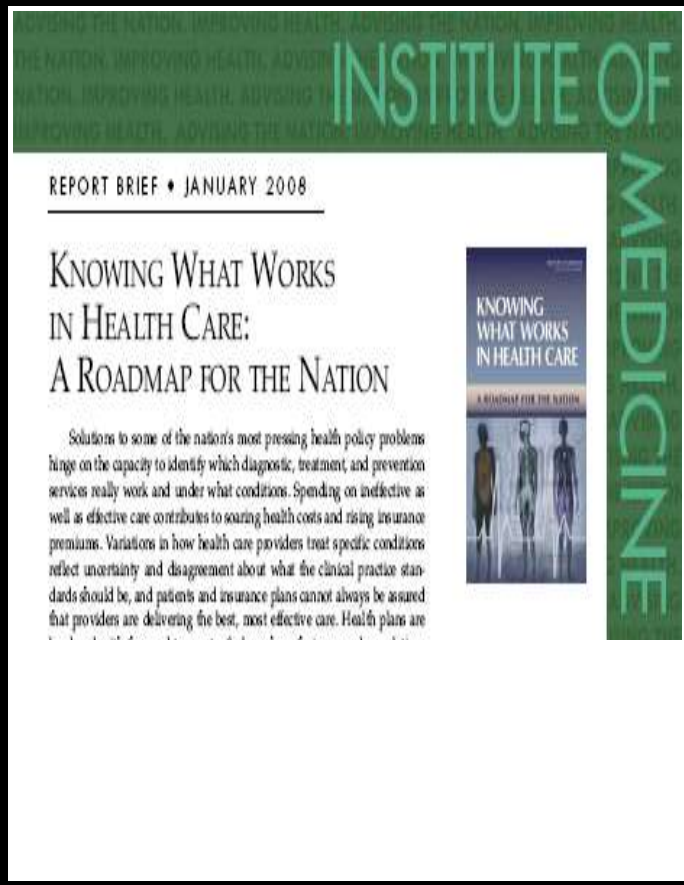
RHIO

National Alliance for Health Information Technology

Development of a National Healthcare Performance Measurement Data Strategy





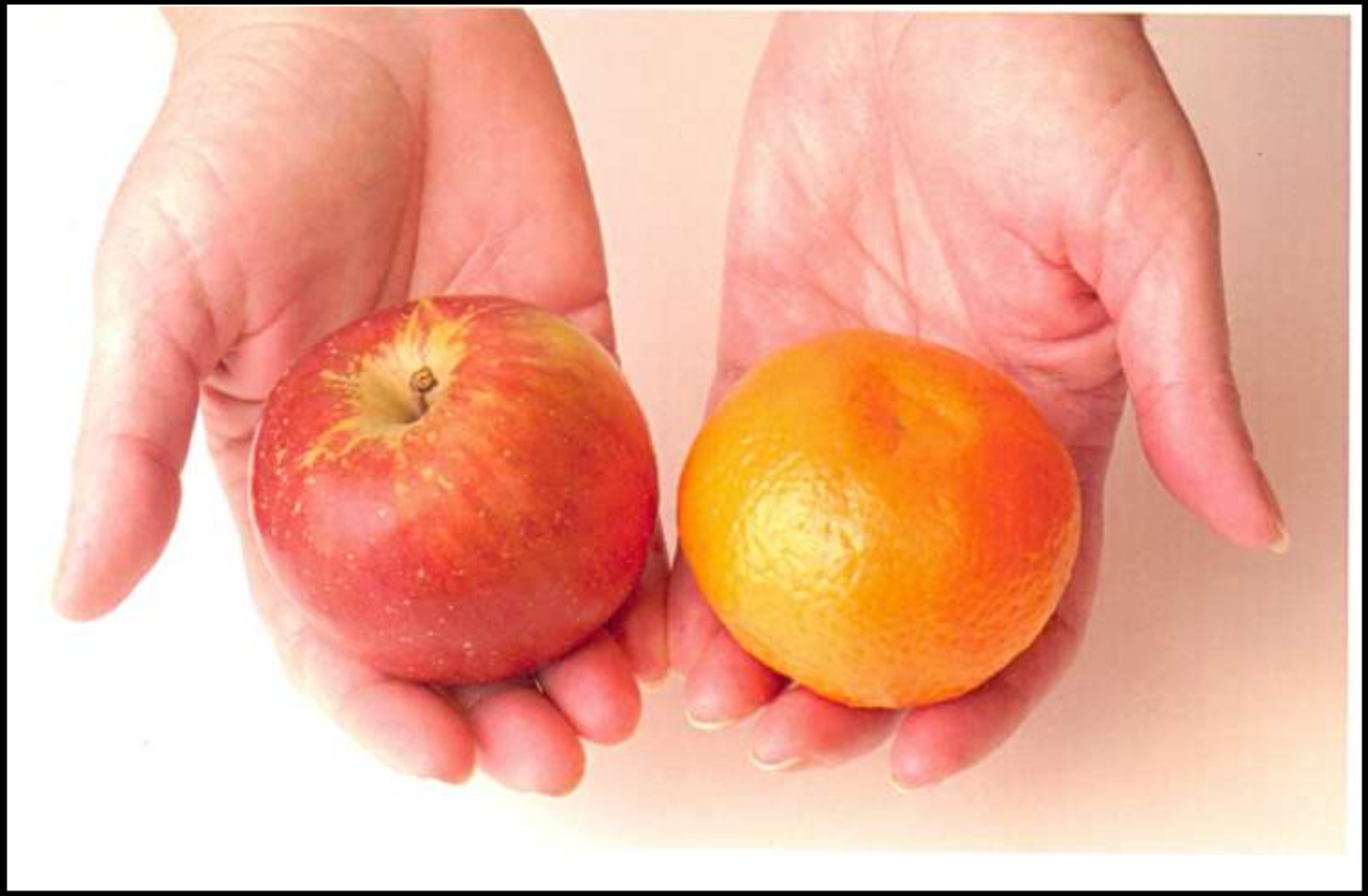


"Not everything that counts can be counted,
and not everything that can be counted, counts"

Albert Einstein

Performance Measurement in Healthcare

- frustrating, protracted and inconclusive quest for valid metrics
- “what you measure improves”
- “what is typically measured does not correlate with better outcomes”
- separate quality improvement efforts from cost containment pressures
- performance measurements are intrinsically different from clinical guidelines



Healthcare Performance Data

- highly fragmented data
- competing/conflicting needs of different stakeholders
- insufficient standardization
- disparate data
  - disease staging and reporting
  - diverse treatment options
  - settings of care
  - geography
  - insurance status
  - regulation
  - professional preferences
- collection burden and limited automation

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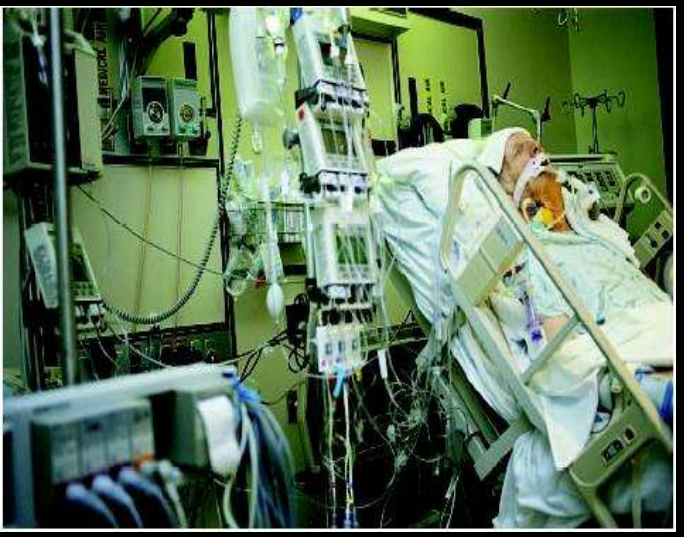
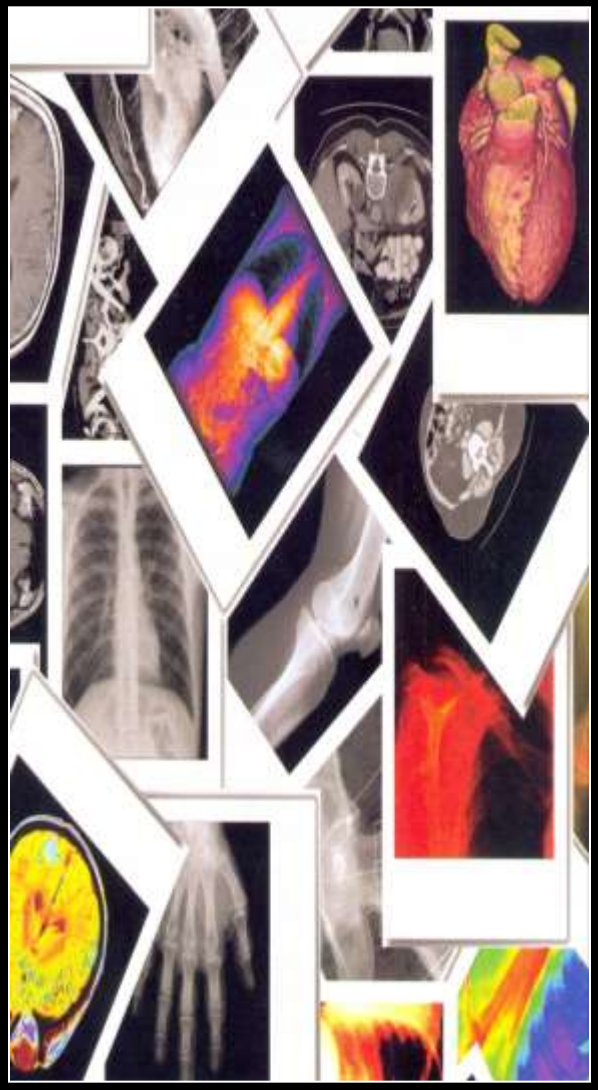
Inadequate and/or Misaligned Incentives

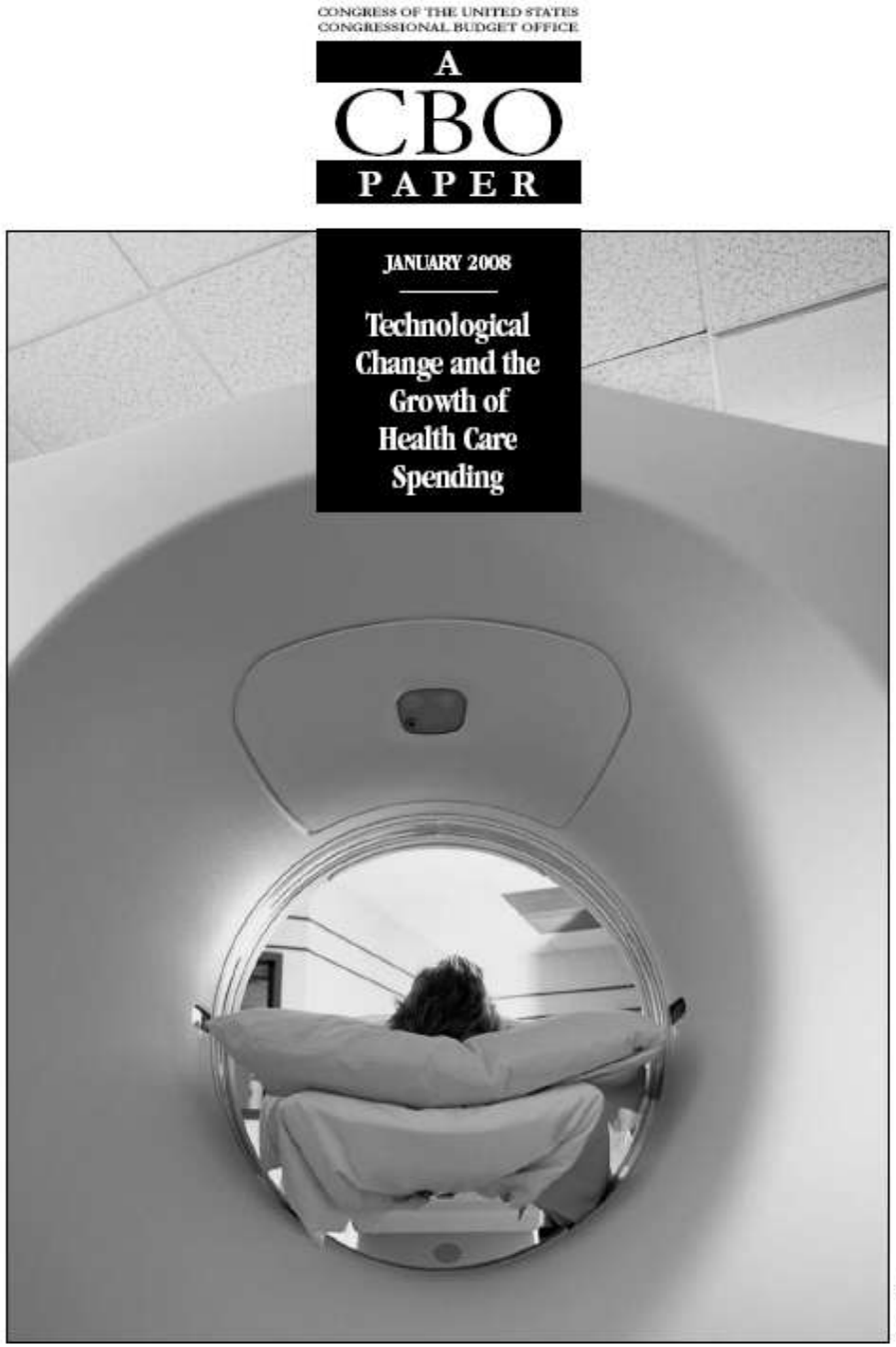
Performance Measurement

- allocation of incremental dollars to low-priority care as often or more frequently than high-priority care merely exacerbates current distortions
- refine analyses to focus resources where they will do the most good
- encourage optimal care via weighted measures that credit high-priority care over low-priority care
- lack of investment to devise pragmatic metrics suitable for longitudinal assessment
- new incentives

How Much New Technology Can We Afford?



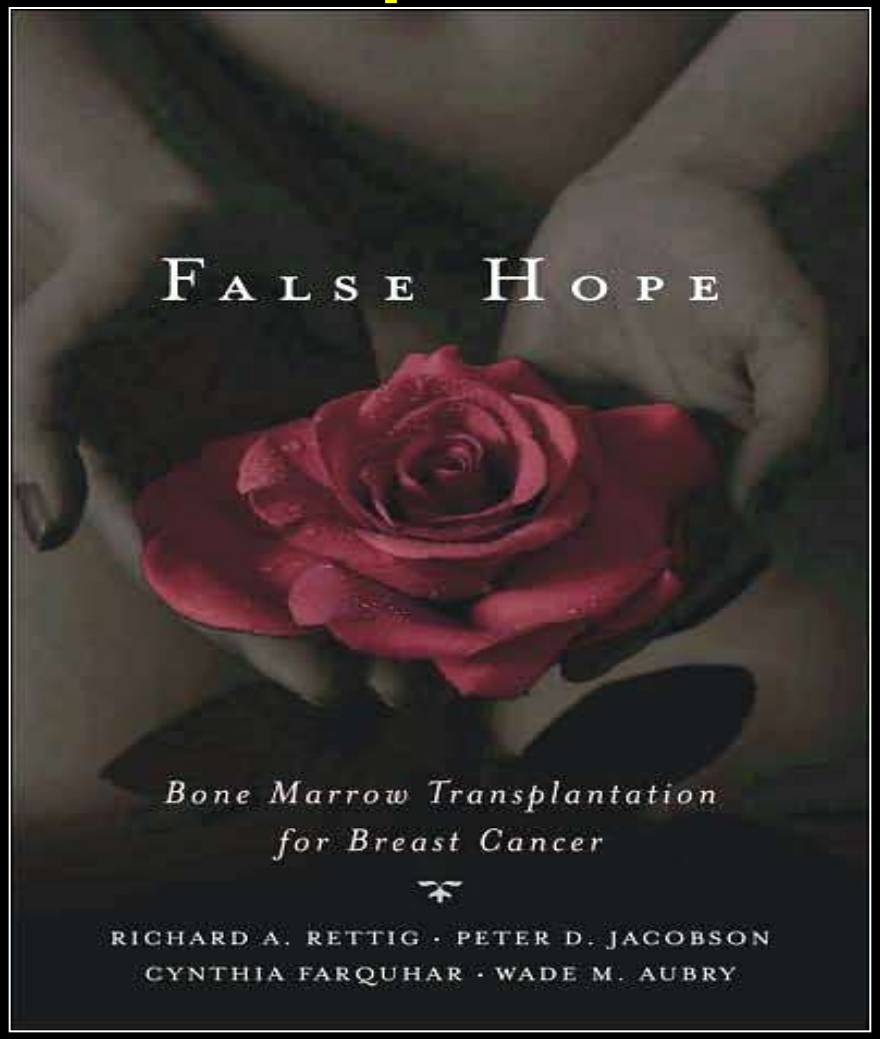




“Half of all growth in healthcare spending in the past several decades was associated with changes in care made possible by advances in technology”

CBO January 2008

The Desperate Cure



$3.4 billion dollars, 42,000 treatments, and 9,000 deaths later

Evidence and Comparative Effectiveness (CE): The Foundation of Rational Healthcare Policy

- urgent imperative to eclipse “the archeology of clinical practice”
- limited fraction of clinical interventions validated by rigorous analysis/evidence
- benefits/risks of new technology never fully known at launch
- evaluation in clinically-relevant context(s)
- cost of CE studies
- standard-of-care and malpractice

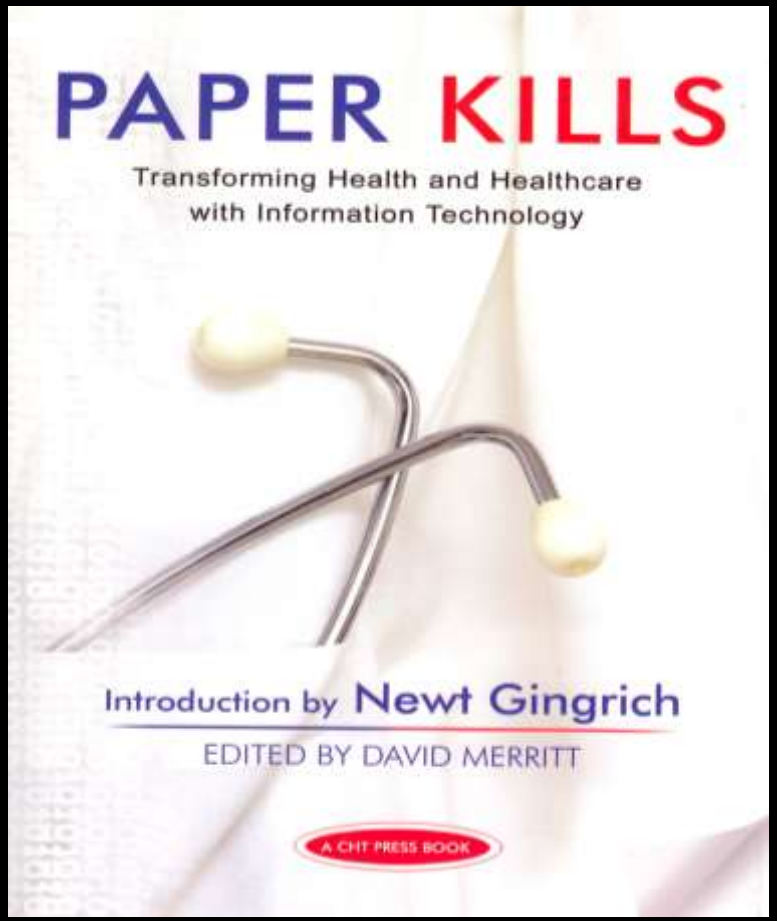
Inadequate Funding of Research on Comparative Effectiveness*

- $15 million earmarked for AHRQ in 2006
  - 0.052% NIH budget
  - 0.008% national Rx expenditures
  - 0.004% Medicare spending
  - 0.00086% total healthcare spending

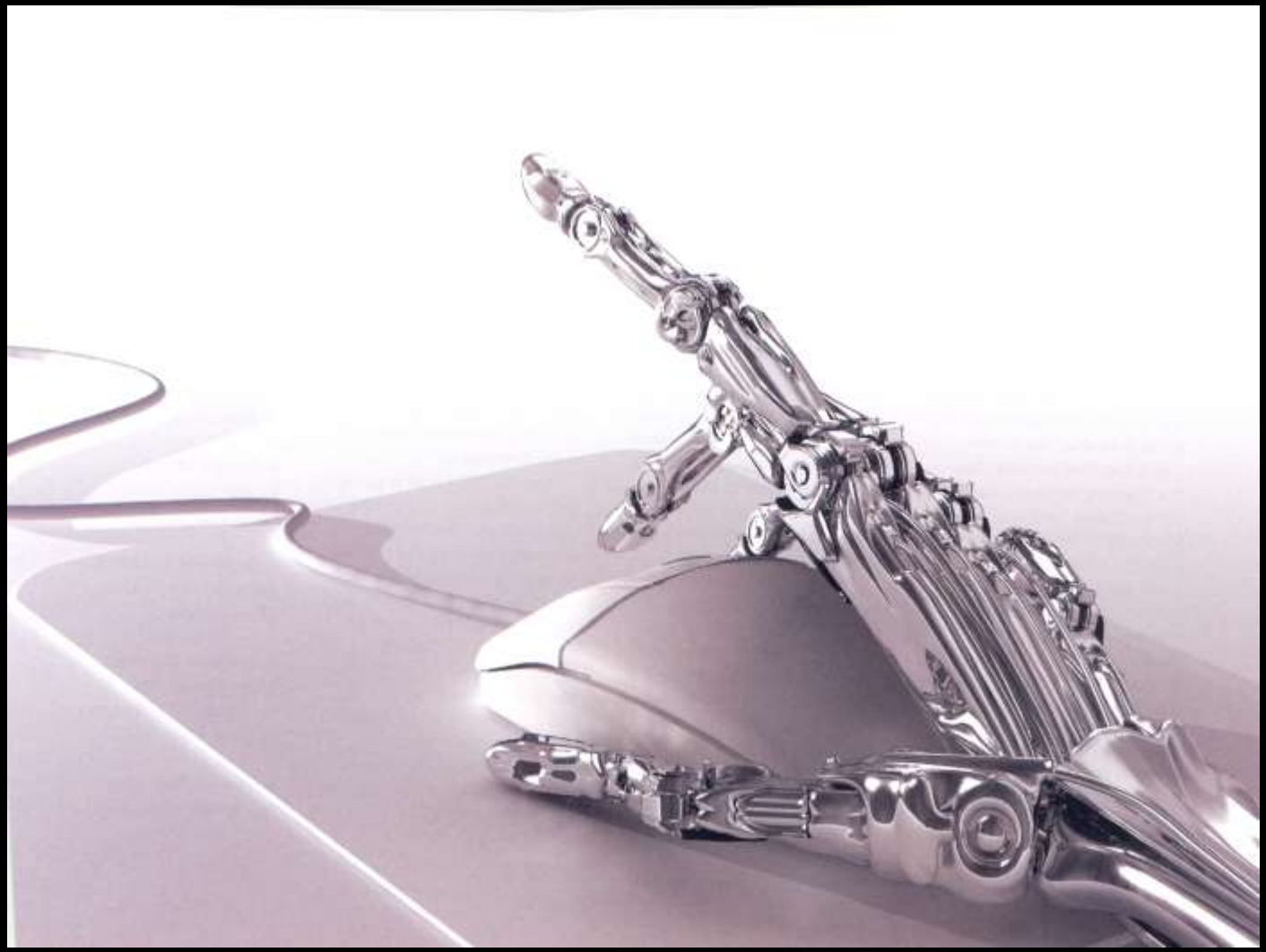
* source NIHCM Foundation: www.nihcom.org

Improving Health Care Value: Quality and Cost
A New Institute for Comparative Effectiveness Research

Paper-Based Medical Records: Fragmented Care, Unacceptable Errors and a Major Hurdle to Performance Analysis



When Will Interoperable Electronic Medical Records Become a Reality?



Interoperable EMR is a Critical Enabler

Providers	Payors	Consumers	Regulators	Manufacturers
Delivery of care based on evidence	Reimbursement based on real-world product effectiveness	Early and affordable access and better Informed decisions	Earlier detection of product safety & efficacy issues	Early and affordable evidence to support reimbursement for innovation

Managing Complexity in Chronic Care
"The Patient-Centered (Advanced) Medical Home"

- build on concepts from AAP (1967) and AAFP (2004)
- ACP http://www.acponline.org/hpp/statehe07_5.pdf
- Medicare demonstration projects for coordinated care
  - section 204 of Tax Relief and Health Act 2006
- build physician networks for coordinated patient care of complex chronic conditions
- crucial role of primary care physicians
- new reimbursement policies
- workforce training policies
- consumer-directed healthcare (empowerment)

Challenges to Moving Forward with the (Advanced) Medical Home Model for Coordinated Care

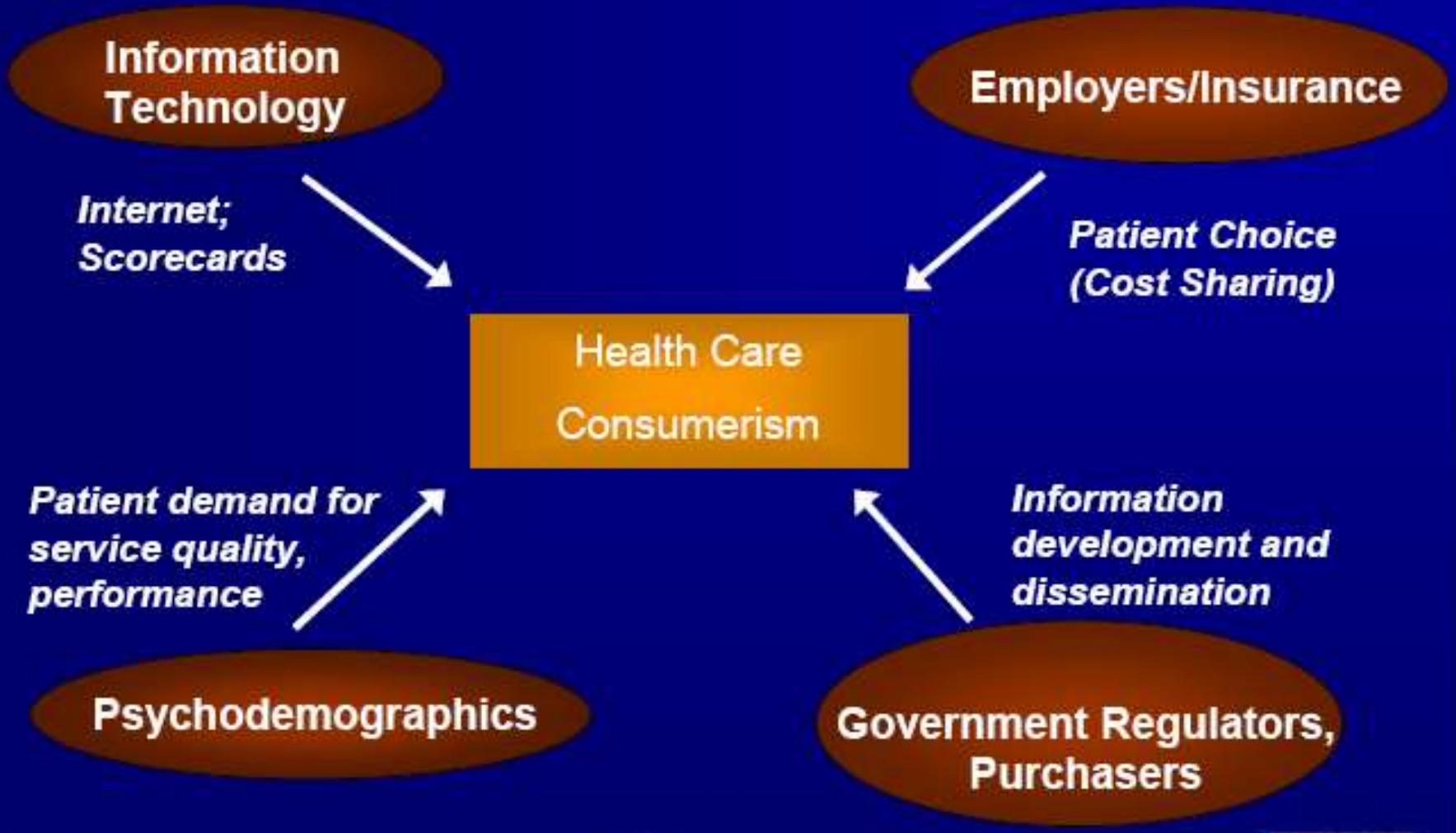
- lack of suitably trained PCPs
- downward trend in PCP population
- insufficient capital, incentives and facileness of HIT infrastructure
- uncertain financial rewards and savings
- inadequate reimbursement policies for preventive care
- turf wars and tensions
  - care management
  - vendors/health plans
  - reduced revenues for hospital with significant PCP network
  - assignment of malpractice liabilities

Consumer Directed Healthcare Plans

"Until the person receiving the product is responsible
in some fashion for the costs,
there will be no incentive to spend responsibly"

Scott Serota
CEO, BCBS Association of Chicago
Chief Executive Magazine, March 2007 p. 50

Drivers of Healthcare Consumerism

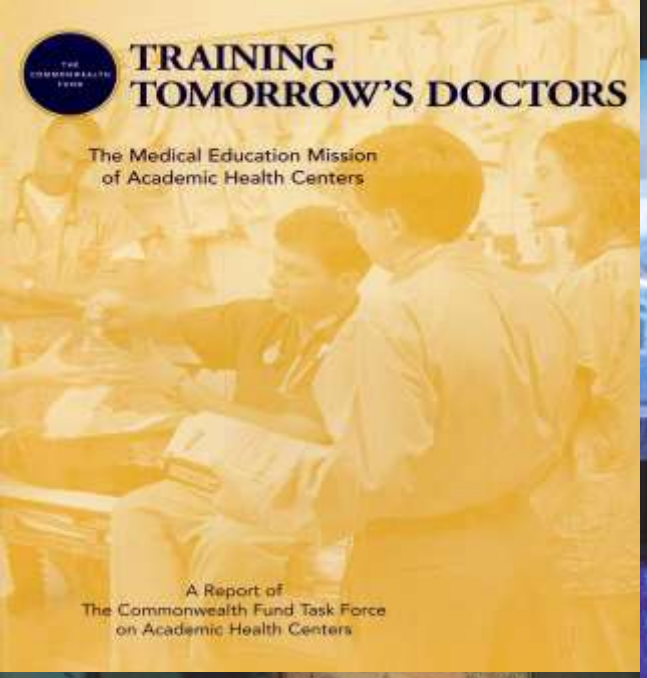


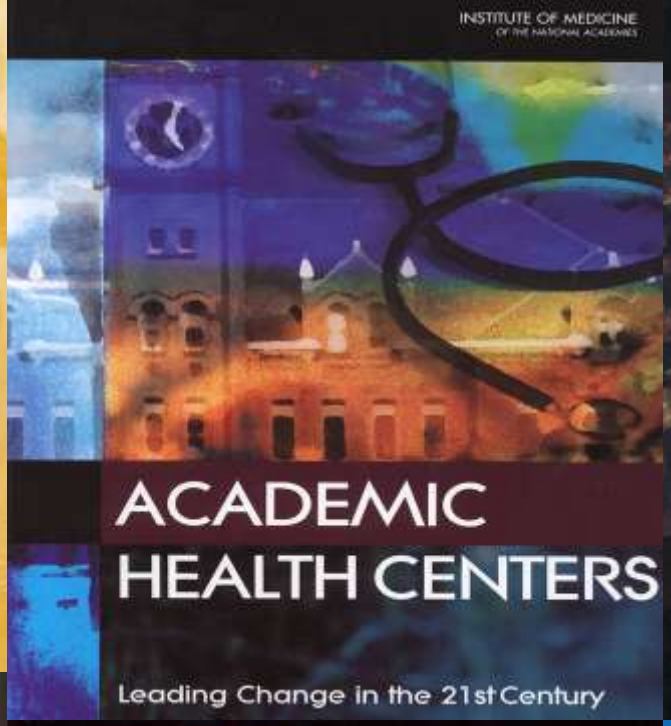
The Changing Nature of Social Interaction

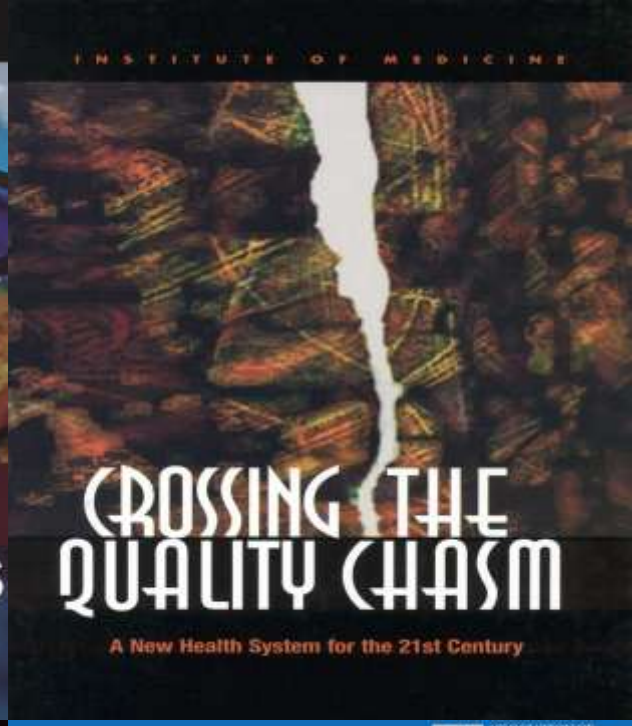
Herd Behavior: 1.3 Million Bathers, Coney Island 1951

The New "Virtual" Community


www.worldofstock.com

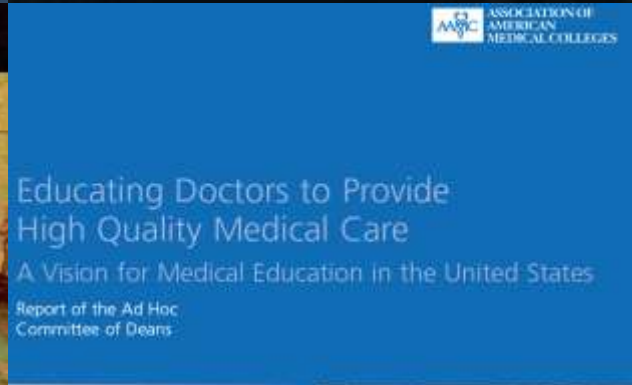

TRAINING TOMORROW'S DOCTORS
The Medical Education Mission of Academic Health Centers
A Report of The Commonwealth Fund Task Force on Academic Health Centers


INSTITUTE OF MEDICINE
ACADEMIC HEALTH CENTERS
Leading Change in the 21st Century

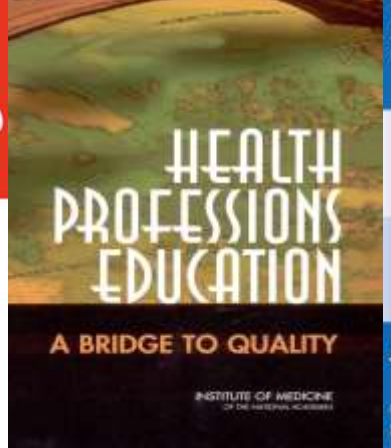

INSTITUTE OF MEDICINE
CROSSING THE QUALITY CHASM
A New Health System for the 21st Century


TO ERR IS HUMAN
BUILDING A SAFER HEALTH SYSTEM
INSTITUTE OF MEDICINE

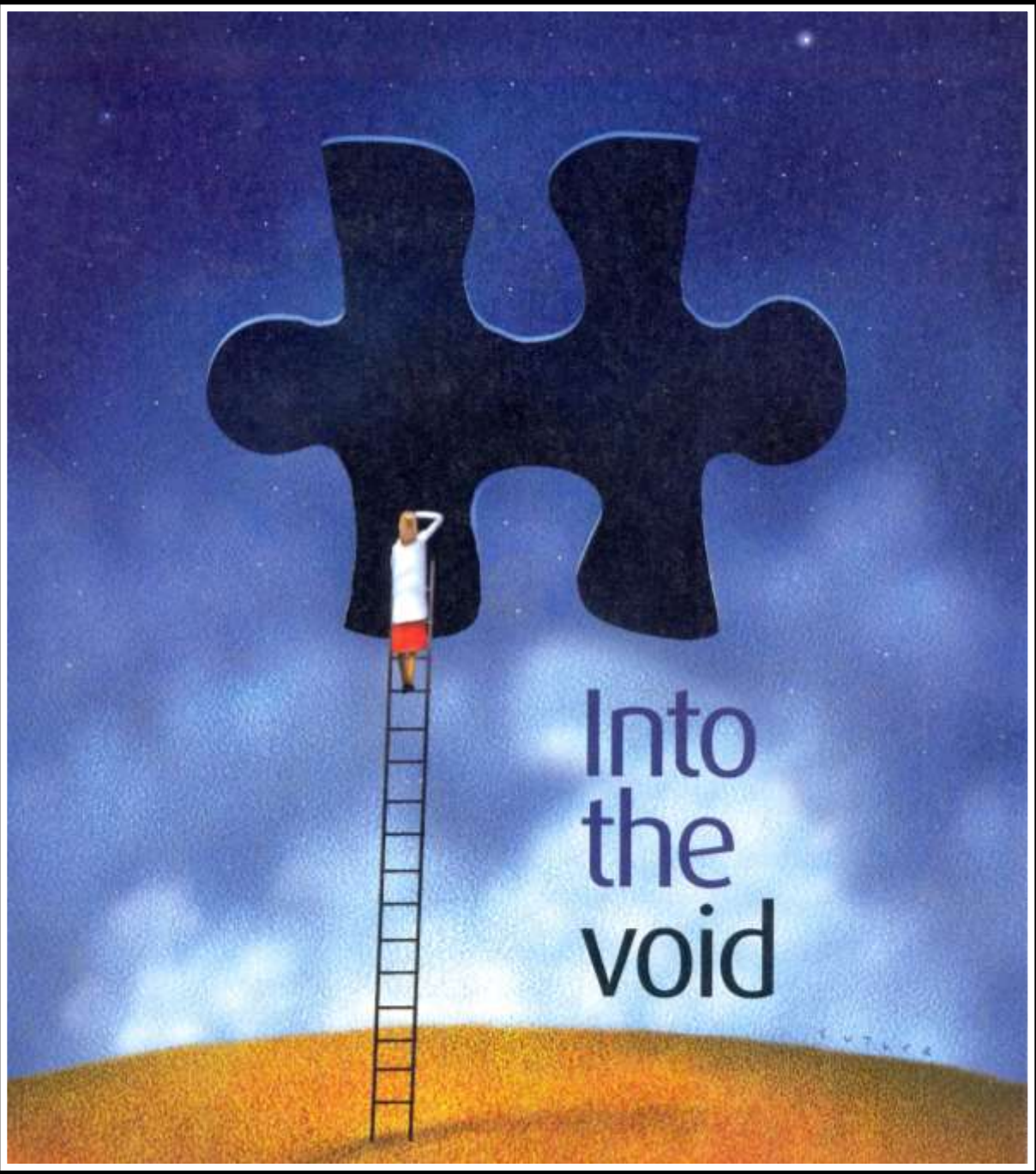

QUALITY CHASM SERIES


ASSOCIATION OF AMERICAN MEDICAL COLLEGES
Educating Doctors to Provide High Quality Medical Care
A Vision for Medical Education in the United States
Report of the Ad Hoc Committee of Deans


August 2004
ACGME Bulletin
ACGME
Accreditation Council for Graduate Medical Education
EDITOR'S INTRODUCTION
The Accreditation Council for Graduate Medical Education publishes the ACGME Bulletin four times a year. The Bulletin is distributed free of charge to more than 12,000 individuals involved in
Graduate Medical Education and Patient Safety


HEALTH PROFESSIONS EDUCATION
A BRIDGE TO QUALITY
INSTITUTE OF MEDICINE


July 2004
Commissioned for the AAMC Institute for Improving Medical Education


Into
the
void

The Coming Era in Healthcare

- dramatic (unprecedented change)
- discontinuity (new technologies)
- dislocation (demographics/market structure)
- dependency (new inter-relationships)
- data (R&D, outcomes and standards of care, risk management)
- Darwinian (new competitive pressures)

Reasonable Expectations for Rational Healthcare

- what works
- why it works
- who it works for
- what works best
- when should it be used optimally

- validated evidence
- mechanism of action
- personalized medicine
- comparative effectiveness
- best practice guidelines, standard-of-care and malpractice

VALUE

The Imperative for Fundamental Reform in Healthcare

Current

- empirical
- widespread unvalidated interventions
- protracted adoption of best practices
- highly variable clinical interventions
- limited use of performance metrics
- misaligned incentives and zero-sum competition

Future

- rational
- knowing what works (evidence)
- adopting what's best (comparative effectiveness)
- clinical guidelines and decision-support
- transparency and pay-for-performance (P4P)
- incentives matched to new market realities and demonstrated outcomes

The Imperative for Fundamental Reform in Healthcare

Current

- fragmented ‘siloed’ care provision
- reactive, incident-based interventions
- limited consumer/patient role in care decisions
- managing illness

Future

- coordinated care of complex conditions
- proactive management of disease condition/risk
- increased personal responsibility for risk reduction
- maintaining wellness

The Urgent Imperative for New Drivers of Efficiency and Equity in Healthcare Delivery

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