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Population Health as a Foundation for Health Reform

David B. Nash, MD, MBA
Dean
Jefferson School of Population Health

11th Population Health Colloquium
Pre-conference Boot Camp
March 14, 2011

Tobacco Smoke Enema (1750s-1810s)
The tobacco enema was used to infuse tobacco smoke into a patient's rectum for various medical purposes, primarily the resuscitation of drowning victims. A rectal tube inserted into the anus was connected to a fumigator and bellows that forced the smoke towards the rectum. The warmth of the smoke was thought to promote respiration, but doubts about the credibility of tobacco enemas led to the popular phrase "blow smoke up one's ass."

This Old Tool has been reintroduced in Washington D.C. by the New Administration.
Are you starting to feel it

INSIDE THIS WEEK: A 14-PAGE SPECIAL REPORT ON AGEING

The Economist

Iran's agony

The mystery of Mrs Merkel

Asia's consumers to the rescue?

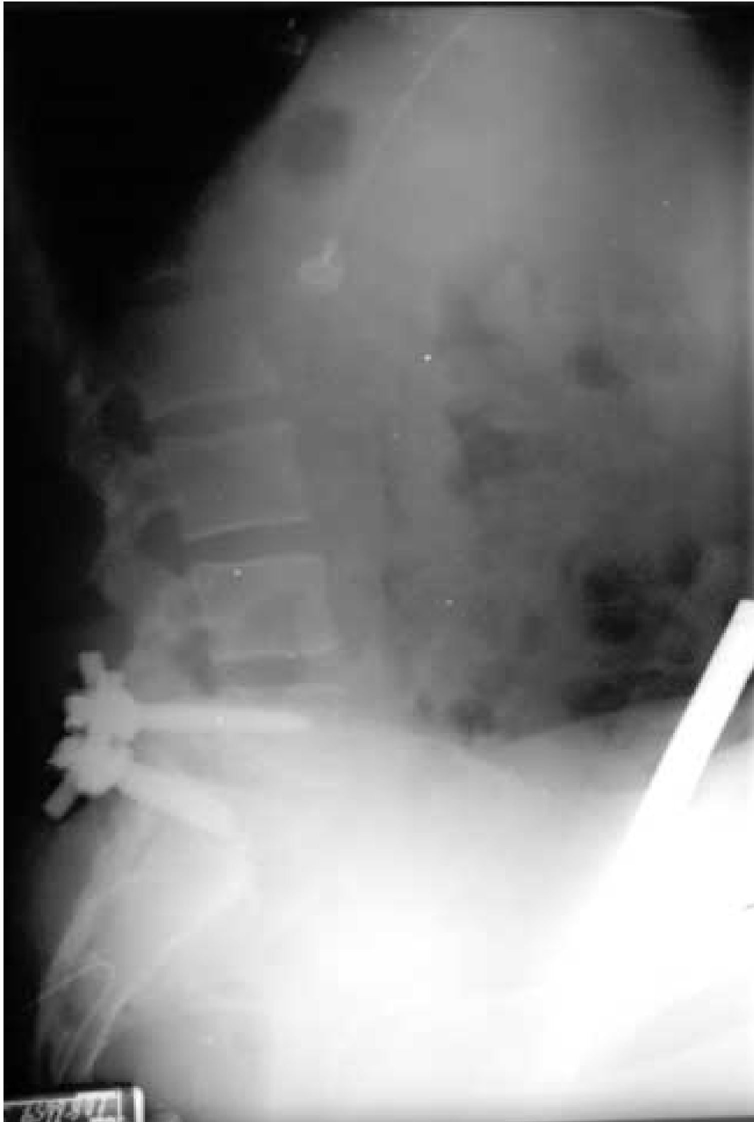
The Greeks and those marbles

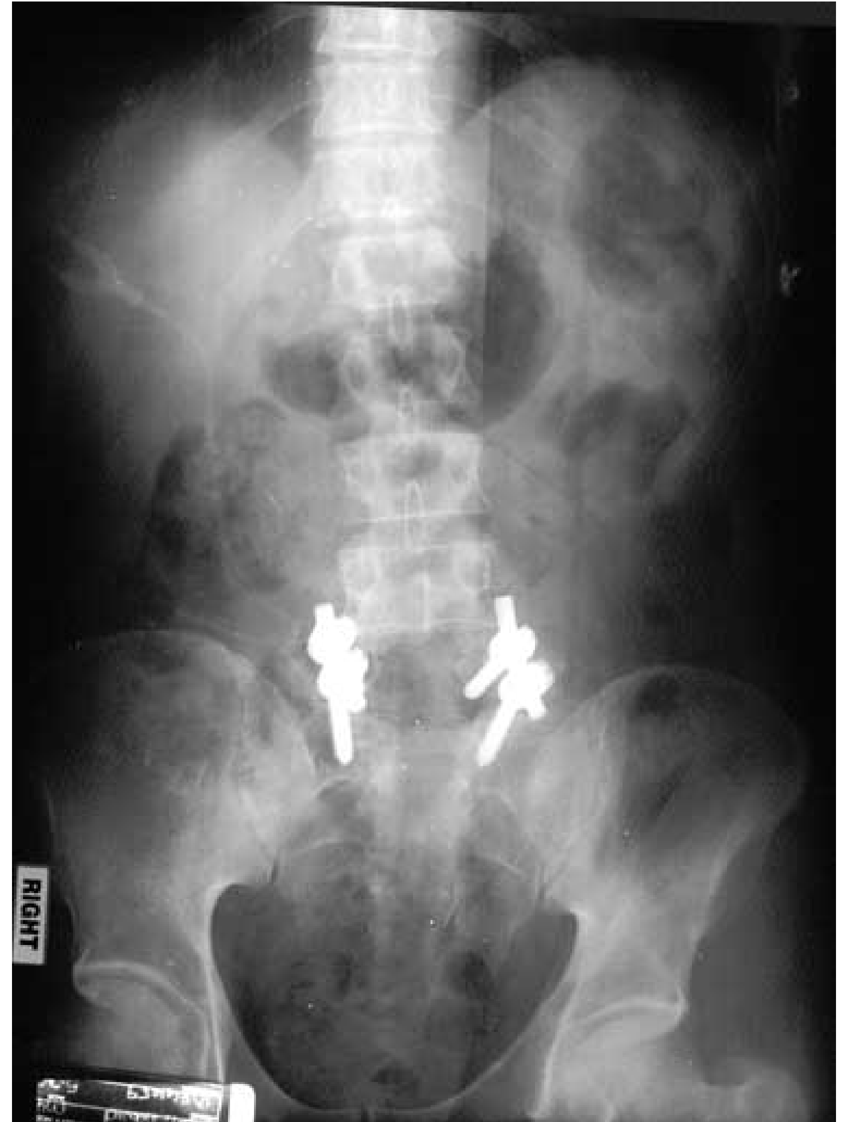
Evolution and depression

JUNE 27TH–JULY 3RD 2009 Economist.com

Reforming health care

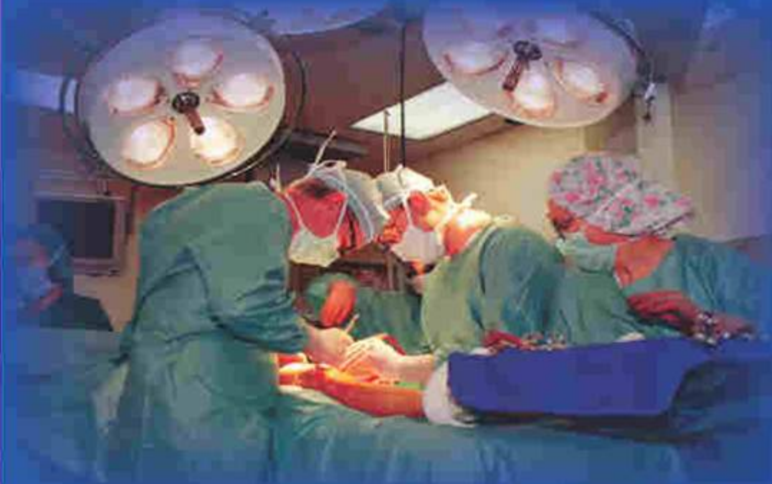
This is going to hurt




RIGHT

Total Hip and Knee Replacements

FISCAL YEAR 2002: JULY 1, 2001 TO JUNE 30, 2002



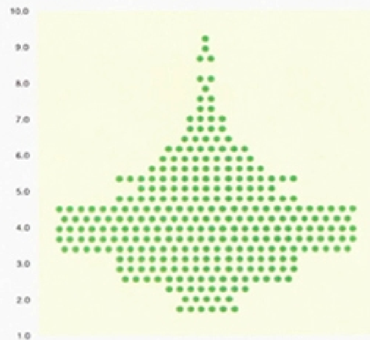
PENNSYLVANIA HEALTH CARE COST CONTAINMENT COUNCIL
JUNE 2005

Center for the Evaluative Clinical Sciences

Regional Variation in Rates of Spine Surgery

Total Spine Surgery

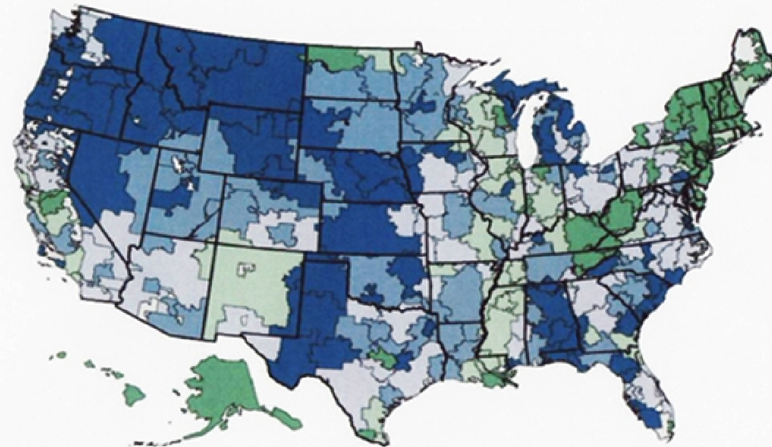
There was substantial regional variation in overall spine surgery rates among Medicare enrollees in 2002-03 (Figure 3). Rates varied by a factor of almost six, from 1.6 per 1,000 enrollees to 9.4. Among the hospital referral regions where rates of spine surgery were highest were Casper, Wyoming (9.4); Mason City, Iowa (9.0); Bend, Oregon (8.7); Boise, Idaho (8.2); and Billings, Montana (8.0). Regions with rates lower than the national average of 4.0 spine surgery procedures per 1,000 enrollees included Honolulu (1.6); Newark, New Jersey (1.7); Paterson, New Jersey (1.8); Manhattan (1.8); and East Long Island, New York (1.8).



Spine surgery per 1,000 Medicare enrollees (2002-03)

Each point represents the rate in one of the 306 HRRs in the United States.

Figure 3. Rates of Spine Surgery Among Hospital Referral Regions, 2002-03



Ratio of Total Rates of Spine Surgery to the U.S. Average
by Hospital Referral Region (2002-03)

- 1.30 to 2.36 (71)
- 1.10 to < 1.30 (56)
- 0.90 to < 1.10 (80)
- 0.75 to < 0.90 (47)
- 0.40 to < 0.75 (52)
- Not Populated

Map 1. Spine Surgery

In 71 hospital referral regions, rates of spine surgery were at least 30% higher than the United States average of 4.0 per 1,000 Medicare enrollees. In 52 hospital referral regions, rates were more than 25% lower than the national average.

… all hospitals are accountable to the public for their degree of success…

If the initiative is not taken by the medical profession, it will be taken by the lay public.

1918 Am Coll Surg

Population Health: Conceptual Framework

Health outcomes
and their distribution
within a population

Morbidity

Mortality

Quality of Life

Health determinants
that influence distribution

Medical care

Socioeconomic status

Genetics

Policies and interventions
that impact these determinants

Social

Environmental

Individual

IMMIGRATION (P. 35) | MILLER TIME (P. 64) | P&G's BUZZ MOMS (P. 32)

The McGraw-Hill Companies

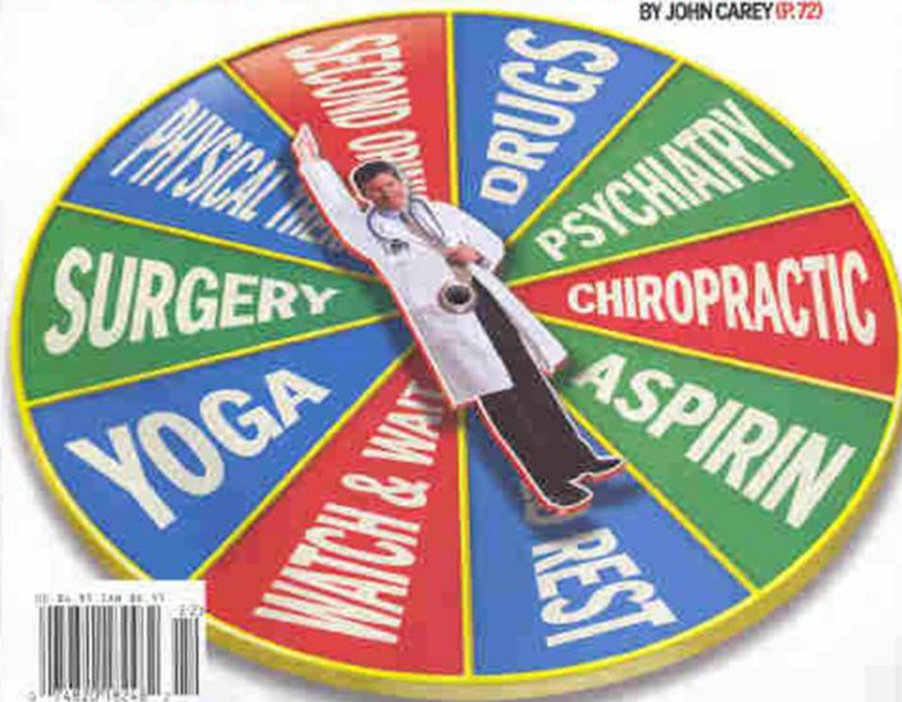
BusinessWeek

MAY 29, 2006 www.businessweek.com

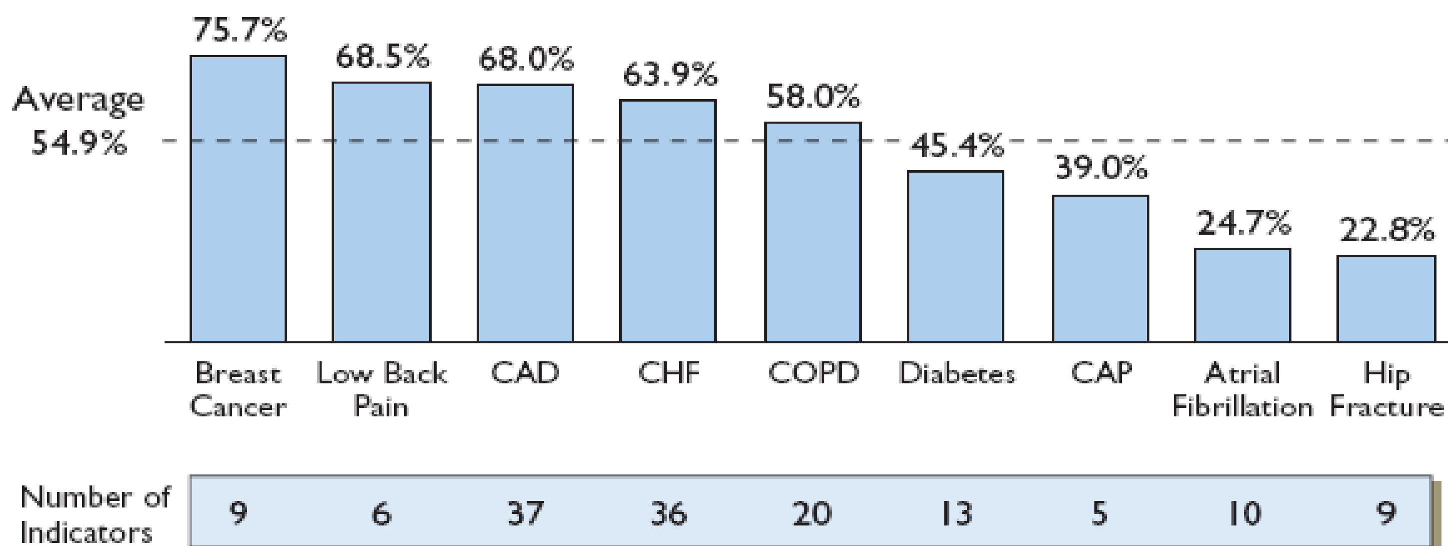
Medical Guesswork

From heart surgery to prostate care, the medical industry knows little about which treatments really work

BY JOHN CAREY (P. 72)



Uneven Adherence to the Evidence



Source: McGlynn EA, et al., "The Quality of Health Care Delivered to Adults in the United States," *New England Journal of Medicine*. June 26, 2003: 2635–2645.

Mirror, Mirror on the Wall

How the Performance of the U.S. Health Care System Compares Internationally

2010 Update

Karen Davis, Cathy Schoen, and Kristof Stremikis

June 2010

Exhibit ES-1. Overall Ranking

Country Rankings	
Green	1.00–2.33
Yellow	2.34–4.66
Red	4.67–7.00

	AUS	CAN	GER	NETH	NZ	UK	US
OVERALL RANKING (2010)	3	6	4	1	5	2	7
Quality Care	4	7	5	2	1	3	6
Effective Care	2	7	6	3	5	1	4
Safe Care	6	5	3	1	4	2	7
Coordinated Care	4	5	7	2	1	3	6
Patient-Centered Care	2	5	3	6	1	7	4
Access	6.5	5	3	1	4	2	6.5
Cost-Related Problem	6	3.5	3.5	2	5	1	7
Timeliness of Care	6	7	2	1	3	4	5
Efficiency	2	6	5	3	4	1	7
Equity	4	5	3	1	6	2	7
Long, Healthy, Productive Lives	1	2	3	4	5	6	7
Health Expenditures/Capita, 2007	$3,357	$3,895	$3,588	$3,837*	$2,454	$2,992	$7,290

Note: * Estimate. Expenditures shown in $US PPP (purchasing power parity).
Source: Calculated by The Commonwealth Fund based on 2007 International Health Policy Survey; 2008 International Health Policy Survey of Sicker Adults; 2009 International Health Policy Survey of Primary Care Physicians; Commonwealth Fund Commission on a High Performance Health System National Scorecard; and Organization for Economic Cooperation and Development, *OECD Health Data, 2009* (Paris: OECD, Nov. 2009).

Institute of Medicine's Definition of Quality

"The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."

Institute of Medicine. Crossing the quality chasm: A new health system for the 21st century. March 2001.

Advance Copy Uncorrected Proofs

FIRST, DO NO HARM

BUILDING A SAFER HEALTH SYSTEM

INSTITUTE OF MEDICINE

The New York Times Magazine

MARCH 16, 2003 / SECTION 6

This War's Medic

Half of what doctors know is wrong.

Can prevention kill you?

Is it ever O.K. for a doctor to refuse to treat a patient?

Are nurses expendable?

Should the results of an insidious experiment be ignored?

Are men the stronger sex?

What's really responsible for the malpractice morass?

Can old-fashioned treatments still work?

"USA TODAY hopes to serve as a forum for better understanding and unity to help make the USA truly one nation."
—Allen H. Neuharth, Founder, Sept. 15, 1982

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Today's debate: Medical errors

Why do so many still die needlessly in hospitals?

Our view:

Part-voluntary, part-mandatory reporting system can reduce deaths.

When a report came out last week from a private group claiming that nearly 200,000 hospital patients die each year from preventable medical errors, it promptly sparked a fierce controversy.

The estimate was double the number found in a landmark study in 1999 by the Institute of Medicine (IOM), a federal advisory group, and the lead author of that earlier study went on the offensive. He charged that the new report used flawed research methods that inflated the fatalities.

But why argue? The difference alone makes a more telling point: Five years after the IOM report drew front-page headlines and widespread outrage, there still is not even a sure way to measure the problem. And that appalling fact should concern any prospective hospital patient — which is to say, everyone.

This year, Congress is finally doing something, though hardly enough.

Before the end of the year, it is expected to install new incentives for medical personnel to report errors. The new system, already approved by both houses, would allow doctors, nurses and other hospital workers to report mistakes anonymously. Independent analysts would then look for patterns and recommend changes. Lawyers and employers would be kept in the dark.

That's an important step.

Suppose, for instance, that a nurse gives a patient the wrong pill because its name and packaging resemble a drug next to it on the hospital's pharmacy shelf. Neither she nor the pharmacist will want to reveal the error, for fear of being punished or sued. The error likely will recur.

But if they can confidentially report the problem, experts can devise ways to improve the packaging and placement of medicines to reduce the risk of simple human error. Lives will be saved.

Six states that have set up similar procedures have seen a significant increase in reported mistakes.

That's clearly the right way to handle relatively minor mistakes, even when they result in some harm.

Even so, the picture will still be woefully incomplete — and patients will remain at risk — unless the reporting of errors that kill or cause the most serious injuries is made mandatory.

Only 22 states currently have mandatory error-reporting systems. The others rely on hospital-industry watchdogs or malpractice lawyers to be on the lookout for mistakes.

The argument over numbers is proof that leaving the solution to the courts is not a prescription for eliminating deadly errors.

Five years ago, the IOM recommended a two-tiered approach, part voluntary, part mandatory. It is still the most sensible compromise.

The question is why five years have elapsed with so little being done. With tens of thousands dying needlessly every year, the next life at risk may be your own.

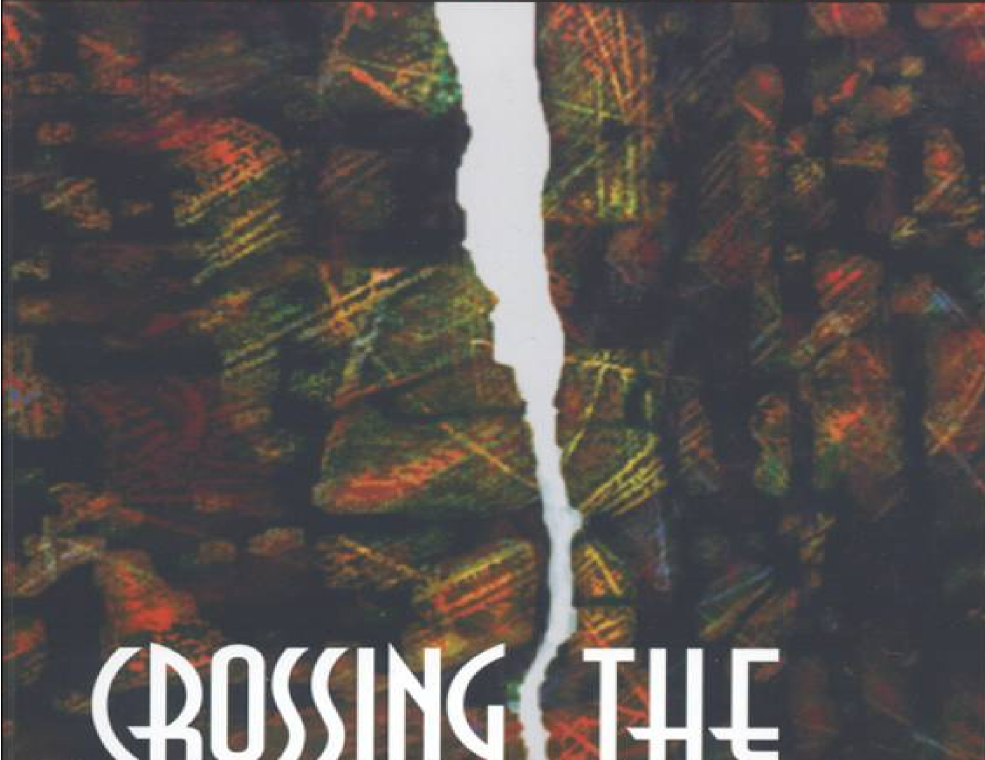
Mistakes cost lives

Highlights from a new study of medical errors involving Medicare patients hospitalized from 2000 through 2002:

- Out of 37 million hospitalizations, 1.14 million "safety incidents" occurred.
- 263,864 deaths were directly attributed to the incidents.
- The safety incidents accounted for $8.54 billion in additional Medicare costs.
- Nearly 60% of safety incidents involved the failure to diagnose and treat conditions that developed in the hospital, bedsores and post-operative infections.

Source: HealthGrades' "Patient Safety in American Hospitals" study released July 27

MAY 1, 2006
www.time.com AOL Keyword: TIME
INSIDE THE WHITE HOUSE SHAKE-UP
PREVIEW: HOT SUMMER MOVIES
TIME
DR. PETERSEN
Metropolitan Hospital
WHAT DOCTORS HATE ABOUT HOSPITALS
An insider's view of what can go wrong—and how you can improve your odds of getting the right treatment
BY NANCY GIBBS & AMANDA BOWER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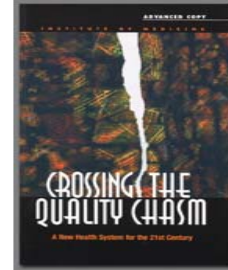
INSTITUTE OF MEDICINE
CROSSING THE QUALITY CHASM
A New Health System for the 21st Century

Institute of Medicine Report 2001
Key Dimensions of Quality Healthcare Delivery



Safe: avoiding injuries to patients from the care that is intended to help them

Effective: providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and overuse, respectively).

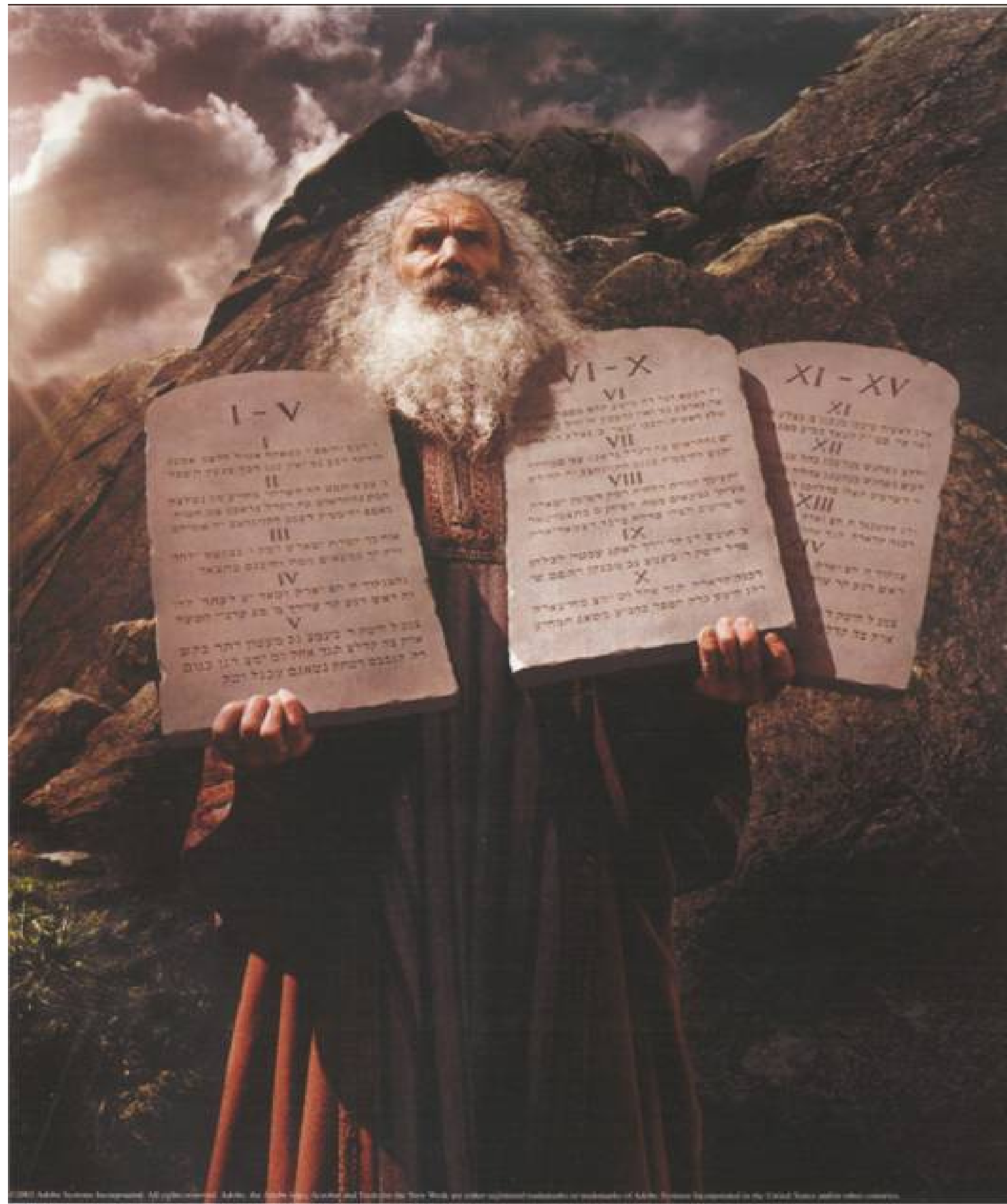
Patient-centered: providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.

Timely: reducing waits and sometimes harmful delays for both those who receive and those who give care.

Equitable: providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.

Efficient: avoiding waste, including waste of equipment, supplies, ideas, and energy.

Institute of Medicine. Crossing the quality chasm: A new health system for the 21st century. March 2001; 5-6.



I - V
VI - X
XI - XV

Ten Commandments
Crossing the Quality Chasm

Current Rules

1. Care is based primarily on visits
2. Professional autonomy drives variability
3. Professionals control care
4. Information is a record
5. Decision making is based on training and experience

New Rules

1. Care is based on continuous healing relationships
2. Care is customized according to patient needs and values
3. The patient is the source of control
4. Knowledge is shared freely
5. Decision making is evidence-based

Don Berwick 2002

Ten Commandments (*cont.d*)

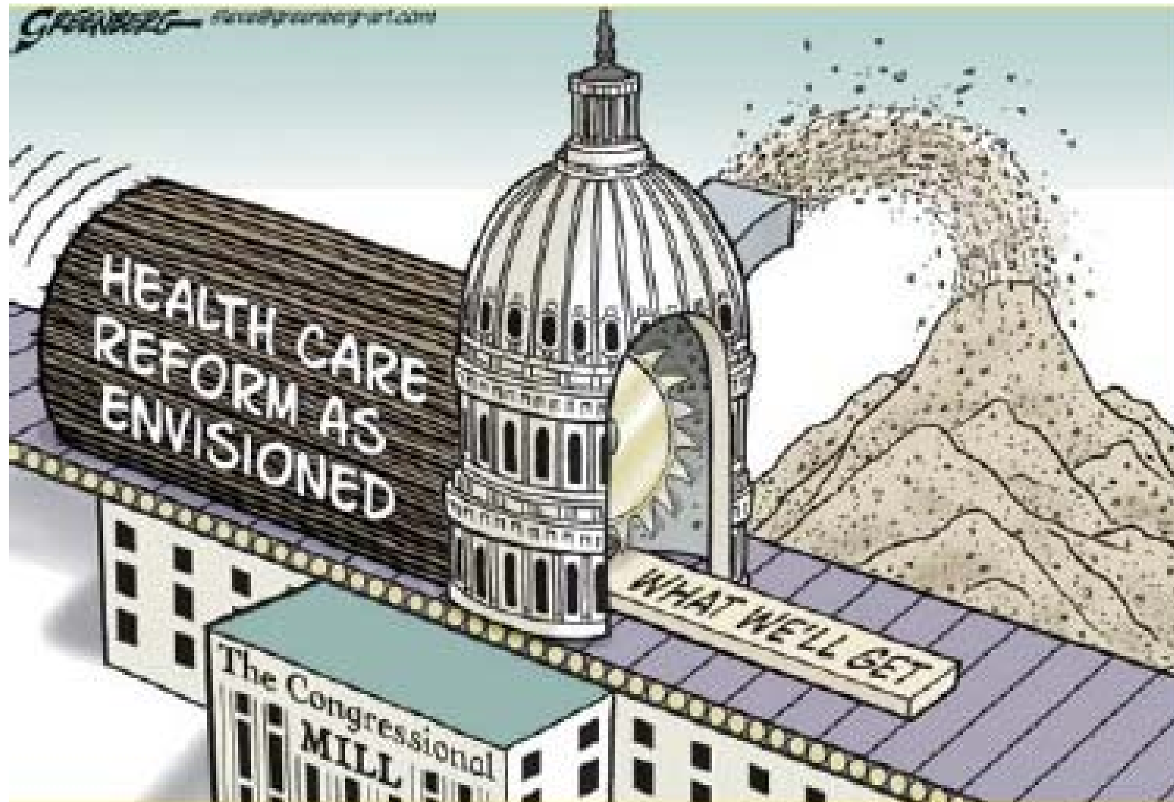
Current Rules	New Rules
6. “Do no harm” is an individual responsibility	6. Safety is a system property
7. Secrecy is necessary	7. Transparency is necessary
8. The system reacts to needs	8. Needs are anticipated
9. Cost reduction is sought	9. Waste is continuously decreased
10. Preference is given to professional roles over the system	10. Cooperation among clinicians is a priority

Don Berwick 2002

George Abbott, John Caldwell, Scott Arthur Masear, Rod Rossi, and P.C. Vey

"Please listen carefully as our menu makes no sense."

The Legislative Process…..



Major Issues with the US Healthcare System
(What the PPACA Bill Actually Addresses…)

- Poor and uneven access to medical care, especially for the uninsured
- Escalating costs and volume of services
- No link between cost and quality
- Excessive administrative costs
- Dysfunctional payment system
- United States is lagging internationally in health outcomes

Health Reform Builds on the Current Quality Infrastructure

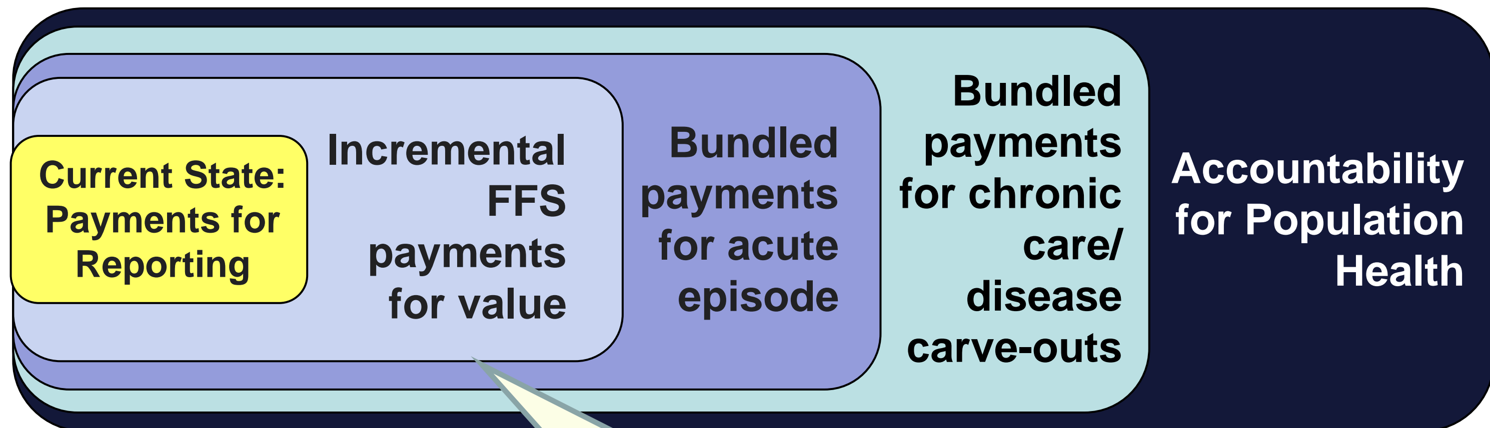
The Four Underlying Concepts of Cost Containment Through Payment Reform…

Tying payment to **evidence and outcomes** rather than per unit of service	**"Bundling" payments** for physician and hospital services by episode or condition
Reimbursement for the **coordination of care** in a medical home	**Accountability for results** - patient management across care settings

Range of Models in Existence or Development

Increasing assumed risk by provider

Increasing coordination/integration required

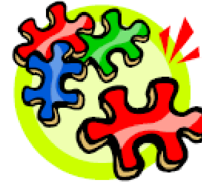


P4P, “Never” Events

What is a Medical Home?

- A Medical Home is "a community-based primary care setting which provides and coordinates high-quality, planned, patient and family-centered health promotion, acute illness care, and chronic condition management"

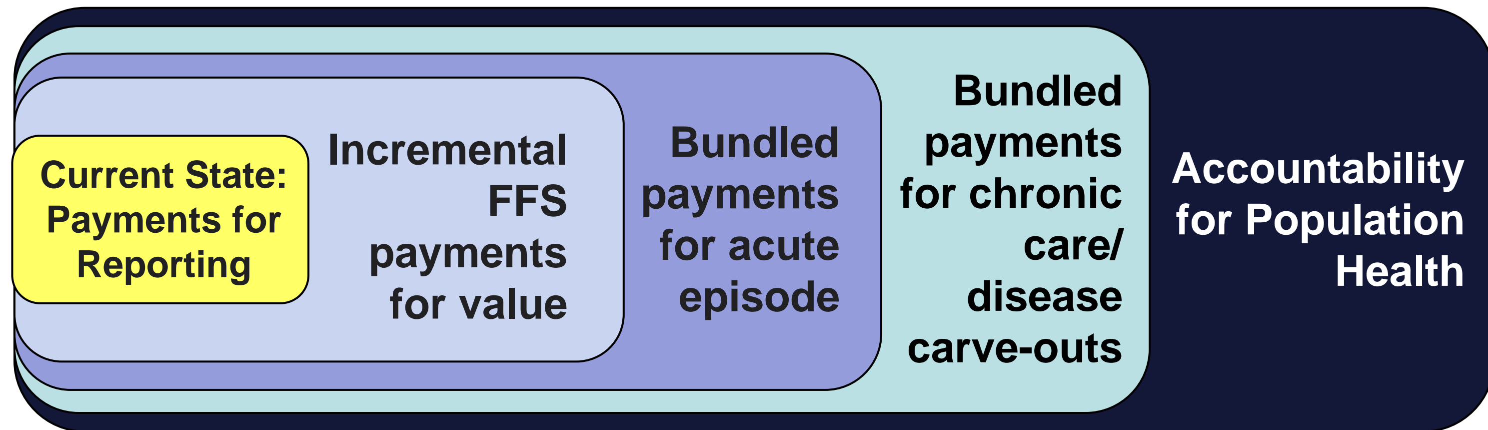
Care that is:	•Accessible •Family-centered •Continuous •Comprehensive •Coordinated •Compassionate •Culturally effective
and for which the PCP:	Shares Responsibility with Patient/Family



The Medical Home Is Something Fundamentally Different

• **Usual Care**		• **Medical Home**
Relies on the clinician		Relies on the team
Care provided to those who come in		Care provided for all
Performance is assumed		Performance is measured
Innovation is infrequent		Innovation occurs regularly
Includes only primary care		Includes mental health, PharmD's and others
Navigation and care management not available		Navigation and care management are required
HIT may or may not support care		HIT must support care

Range of Models in Existence or Development



Accountable Care Organizations

What is an Accountable Care Organization?

- MedPAC Report to Congress (June 2009) Defines ACOs as:

"A combination of hospital, primary care physicians and possibly specialists, associated with a defined population of patients accountable for total Medicare spending and quality of care for that patient population"

PPACA – "SHARED SAVINGS" PROGRAM (§ 3022):

Directs HHS to establish a Medicare "**shared savings program**" by January 2012 that:

"Promotes accountability for a patient population and coordinates items and services under [Medicare] parts A and B and encourages investment in infrastructure and redesigned care processes for high quality and efficient service delivery."

Under this program "groups of providers of services and suppliers … may work together to manage and coordinate care for Medicare fee-for-service beneficiaries through accountable care organizations … and receive payments for shared savings"

MedPAC, Improving Incentives in the Medicare Program (June 2009)
http://www.medpac.gov/documents/Jun09_EntireReport.pdf

ACO BASICS

Accountable care organizations, soon to be a part of Medicare, pay bonuses to networks of doctors and hospitals that achieve quality goals and slow healthcare spending. Policymakers have proposed three types of ACO networks in journal articles:

Level one	Level two	Level three
■ No financial risk for providers	■ Risk for spending that exceeds targets	■ Risk for full or partial capitation
■ Shared savings bonus	■ Greater shared savings bonus	■ Additional quality bonuses
■ Basic quality, efficiency and patient-experience measured	■ Quality, efficiency and patient-experience measured	■ Expanded reporting of quality, efficiency and patient-experience measures

By Susan DeVore and R. Wesley Champion

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Foundation, Inc.

Driving Population Health Through Accountable Care Organizations

ABSTRACT Accountable care organizations, scheduled to become part of the Medicare program under the Affordable Care Act, have been promoted as a way to improve health care quality, reduce growth in costs, and increase patients' satisfaction. It is unclear how these organizations will develop. Yet in principle they will have to meet quality metrics, adopt improved care processes, assume risk, and provide incentives for population health and wellness. These capabilities represent a radical departure from today's health delivery system. In May 2010 the Premier healthcare alliance formed the Accountable Care Implementation Collaborative, which consists of health systems that seek to pursue accountability by forming partnerships with private payers to evolve from fee-for-service payment models to new, value-driven models. This article describes how participants in the collaborative are building models and developing best practices that can inform the implementation of accountable care organizations as well as public policies.

Susan DeVore (susan_devore@premierinc.com) is president and chief executive officer of the Premier healthcare alliance, in Charlotte, North Carolina.

R. Wesley Champion is a senior vice president at Premier Consulting Solutions, in Charlotte.

The Tipping Point

How Little Things Can Make a Big Difference

Malcolm Gladwell

Jefferson School of Population Health

UNIVERSITY

What Does This All Mean?
Major Themes Moving Forward

1. Transparency
2. Accountability
3. No outcome, No income

How Might We Get There? Change the Culture

1. Practice based on evidence
2. Reduce unexplained clinical variation
3. Reduce slavish adherence to professional autonomy
4. Continuously measure and close feedback loop
5. Engage with patients across the continuum of care

What are the major hurdles?

1. Replace pernicious piecework payment system
2. Re-align incentives
3. Create rewards for collaboration, coordination and conservative practice
4. Recognize the cultural barriers

Real Reform: Real Leadership

Current Approach	New Approach
Focus on current medical problem	Focus on all risks
Primary care physicians	Cooperative team of providers
Care based on periodic visits	Continuous healing relationships
Short visits with little information	Emphasis on education and coaching
Decisions by clinical autonomy	Evidence-based decisions
Information restricted	Electronic information flows freely
One size fits all	Care customized to needs/values
Patient a passive participant	Patient/family active participants

VOLUME 11, NUMBER 4, AUGUST 2008 ISSN: 1942-7891

Population Health Management

formerly Disease Management

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- Using DM to Improve Medication Adherence
- DM Programs for the Underserved
- Mental Illness and Health Care in Obese Adults
- DM Principles in Pregnancy and the Postpartum Period
- Impact of Behavioral Adherence in a Diabetes DM Program
- Weight Loss Using Caloric Restriction in an Outpatient Setting
- Evaluating Intensified DM for Type 2 Diabetes
- Sample Size in DM Program Evaluation
- Regression to the Mean in Chronic Obstructive Pulmonary Disease DM

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OF WELLNESS

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MPH

Master of Science in Chronic Care Management

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Nash's Immutable Rule

High Quality
Care
costs less!

Autonomy and Accountability

A Zero Sum Game?

“The institutionalization of leadership training is one of the key attributes of good leadership.”

John P. Kotter,
Harvard Business School