


VS.




Quality, Costs, & Special Interests:

Can We Change Our Behavior in time to Save US Health Care?

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What We'll Talk About

1. Problems with US Health Care
2. How new information technologies can address some of the problems
3. Changes in system and personal behaviors and expectations needed to address the problems


US Health Care is in deep trouble


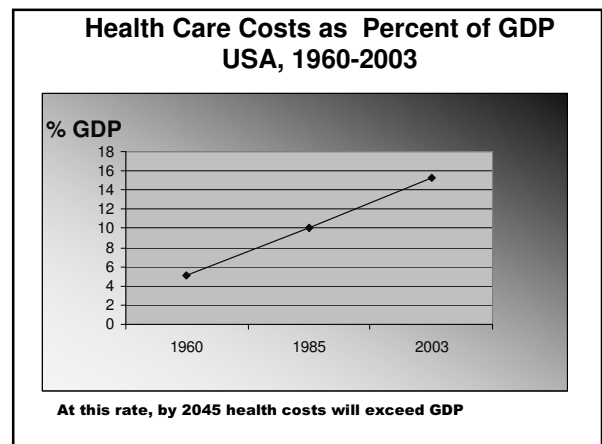
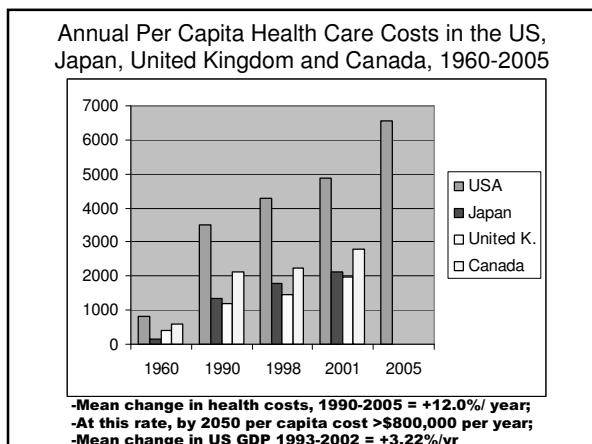
Regulatory, legal, and cultural incentives prevent us from:

- Setting priorities
- Managing costs to optimize outcomes
- Stopping what doesn't work ⇒ excessive care for the insured
- Insuring those who most need care

The US Health Care System

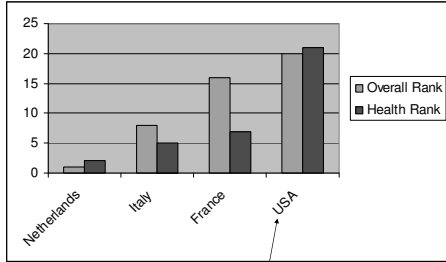
Lost in the Forest





Children's Well Being: Overall and Health Ranks in 21 Developed Nations

The Economist, Feb. 17, 2007 from UNICEF 2005 data



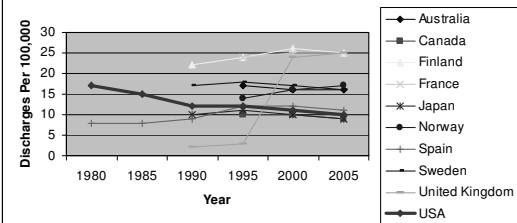
No. developed nations lacking nearly universal health care coverage = 1 (48 million US uninsured & rising fast)

WHY ARE HEALTH COSTS SOARING?

We probably put too many people in the hospital.



Hospital Discharges Per 100,000 Persons



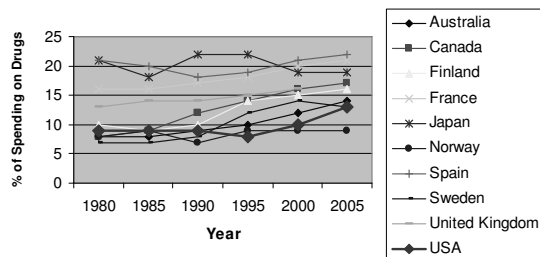
OOPS. GUESS THAT'S NOT IT

WHY ARE HEALTH COSTS SOARING?

Drugs cost a fortune. We must spend more on drugs than other countries.



Pharmaceutical Spending (% of Total Health \$)

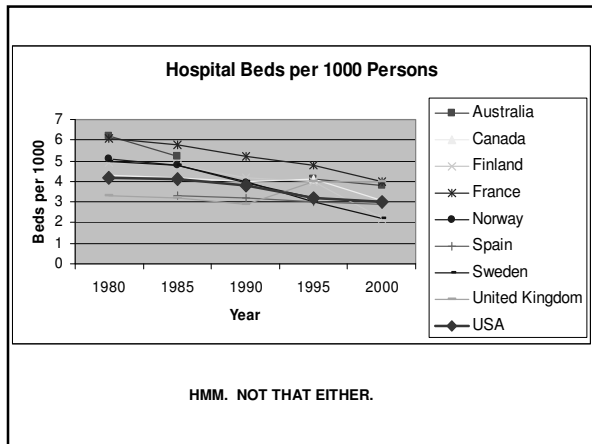


NOT THAT EITHER.

WHY ARE HEALTH COSTS SOARING?



Hospitals are expensive. Maybe we have too many hospital beds?

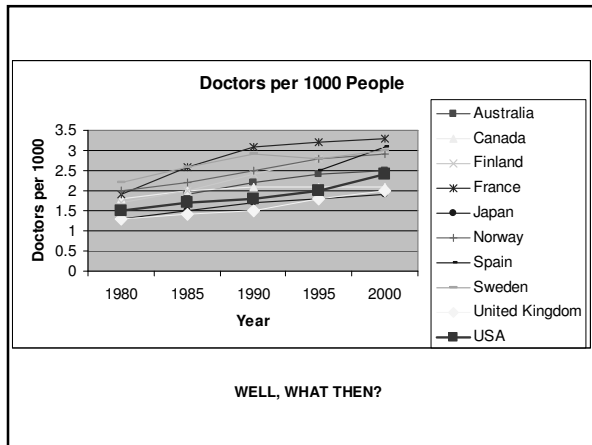




WHY ARE HEALTH COSTS SOARING?



Maybe we have too many too many doctors?

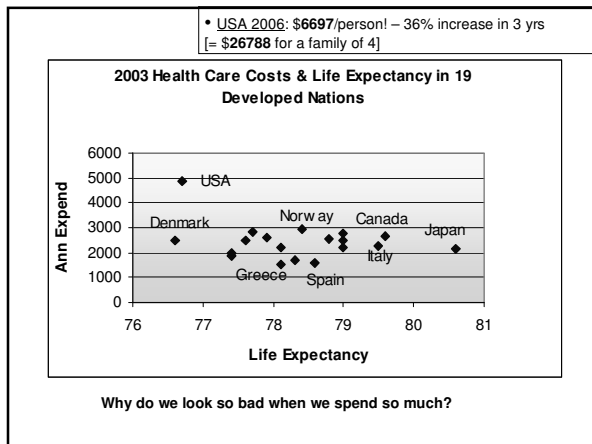





WHY ARE HEALTH COSTS SOARING?

Maybe it's because we live so much longer than other countries?



Countries & Areas that Spend Less Than Half of the US per capita on Health Care and Have Higher Life Expectancies (in order from highest)

Andorra, Macau, Singapore, San Marino, Hong Kong, Japan, Switzerland, Sweden, Australia, Iceland, Canada, Cayman Islands, Italy, France, Monaco, Lichtenstein, Spain, Norway, Israel, Aruba, Greece, Austria, Virgin Islands, Netherlands, Malta, Luxembourg, Germany, New Zealand, Belgium, United Kingdom, Finland, Jordan, Bermuda, Saint Helena, Puerto Rico, Cyprus, Denmark

Source:
http://www.geographyiq.com/ranking/ranking_life_expectancy_at_birth_aall.htm [based on US Dept. of State data and CIA World Fact Book]

WHY ARE HEALTH COSTS SOARING?

“At least 90% of the care we give is unnecessary.”

Archie Cochrane, 1978
Personal communication

“Our focus...should be on eliminating the **gross inefficiencies**...in the US health care system. If we do that, we will be able to cover the uninsured while spending less than we do now.”

Uwe Reinhardt, quoted in Krugman, Wells
NY Rev of Books, 53; 3-23-2006

“The US health care system becomes a more embarrassing disaster each year...”

Donald Kennedy
Science 2003;301:895

WHY ARE HEALTH COSTS SOARING?

“...I look at the U.S. health care system and see an administrative monstrosity, a truly bizarre mélange...”

Henry Aaron
NEJM 2003, 349:801

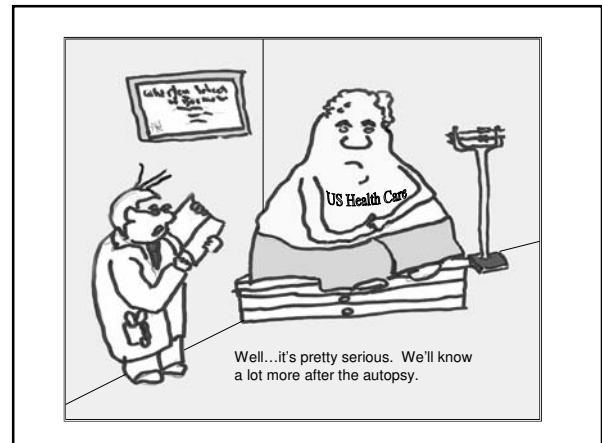
“An epidemic of waste blights the US Health Care delivery system...[the system] is not safe...is not effective...is not efficient...is not patient-centered...is not timely...[and] is not equitable.”

Roger W. Bush, 2007
JAMA 2007, 297:871

WHY ARE HEALTH COSTS SOARING?

“President Bush is committed to assuring that the United States continues to have the finest health care system in the world.”

<whitehouse.gov> (2003)
(since removed)



Why Do We Spend So Much More Than Other Nations?

- We don't relate costs of care to outcomes
- We don't set priorities that maximize benefit from available resources
- We don't rationally translate science into medical practice



Why Do We Spend So Much More Than Other Nations?

- We can't stop doing what doesn't work
- We do too much of what does work – duplicative facilities drive vast excess
- Bureaucracy of plans & insurers adds >\$65 billion in annual costs.
- We don't systematically learn from our experiences



Why Do We Spend So Much More Than Other Nations?

- Malpractice laws & “community practice” standards keep us from applying what we know
- Monopolistic drug & device patent laws
- Congress won't consider real reform --they won't get re-elected if they do

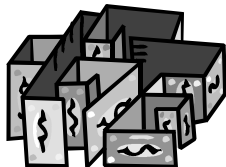


US Health Care: Summary

- US per capita health care costs are more than twice those of any other nation
- US outcomes are, overall, among the worst of all developed nations
- Superb care is available, but not consistently, and not for the uninsured

US Health Care: Summary

- The US is the only developed nation lacking nearly universal health care
- US health costs threaten the entire economy
- The current system is an unsustainable disaster



US Health Care: Summary

The greatest threat to the quality of American health is the strange notion that health care should be unrestrained by cost or by lack of evidence of benefit.

We ration people instead of care.

What Can We Do About the Situation?

- Collect the right information
- Pay attention to it
- Do what is proven instead of what is fashionable
- Change institutional & system behaviors & expectations



Three Steps toward Fixing the System

- I. Better information – Electronic medical records (EMRs) offer many opportunities to improve care and efficiency
- II. Change individual behaviors to improve lifestyles behaviors that enhance health.
- III. Change system behaviors to support optimal health care from available resources



I. Better Information from Electronic Records

Person-Time Coverage (PTC)

"...electronic health record (EHR) databases from millions of people could rapidly advance the U.S. evidence base for clinical care."

Lynn Etheredge
Health Affairs. 2007; 26 (2):w107-w118



How Can EMR Systems Help the Situation?

Electronic medical records allow us to examine the relation of past patterns of care to outcomes of care at low cost and in defined populations.



How Can EMR Systems Help the Situation?

Electronic medical records can:

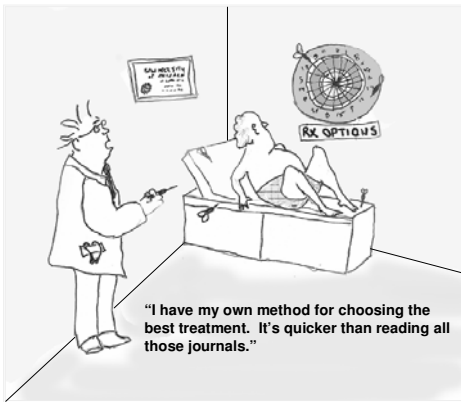
- Identify care variations across systems & practitioners
- Relate practice variations to outcomes & cost
- Pinpoint and facilitate repair of failures and implementation of successes.
- Help determine how to stop doing what doesn't work



There is a downside

*".. **a wealth of information creates a poverty of attention**, and a need to allocate that attention efficiently..."*

Herbert Simon, 1971



"I have my own method for choosing the best treatment. It's quicker than reading all those journals."



Too Much Information Isn't Always a Good Thing

Much information is of poor quality or is inadequate to address key questions:

- surveys with low response rates
- biased samples and questions
- insufficient numbers to address questions asked
- invalid statistical analyses (or none at all), etc.

Remember GIGO – Garbage in, garbage out



The PTC Approach

Person-Time Coverage is a method for using EMRs to:

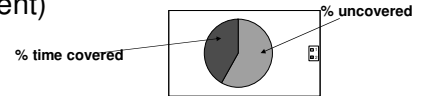
- Set priorities
- Identify and repair dysfunctional processes
- Transfer resources from areas of low benefit to areas of higher benefit

What is Person-Time Coverage?

Preventive Services-offered at set intervals

PI (Prevention Index) = The proportion of person-time that an eligible individual is appropriately covered by a service delivered at a set interval

(e.g., mammography, BP, lifestyle risk assessment)



Recurrent Interval Service – e.g., Mammography PI

Target - period of quality measure (e.g. 2005)

Observation - observation period required to measure quality during target period = target period + 1 full service interval

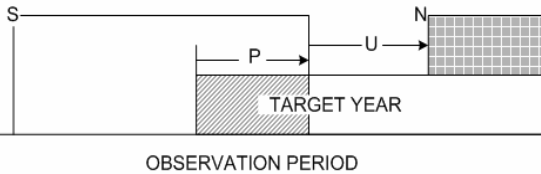
S - dates of coverage by a screening test (e.g. mammogram)

P - portion of target year covered by S

U - period of target not covered by S

N - period of target removed due to a non-screening test

$$PI = 100 \times P/P+U$$



What is Person-Time Coverage?

Disease Management – Treatment to Goal

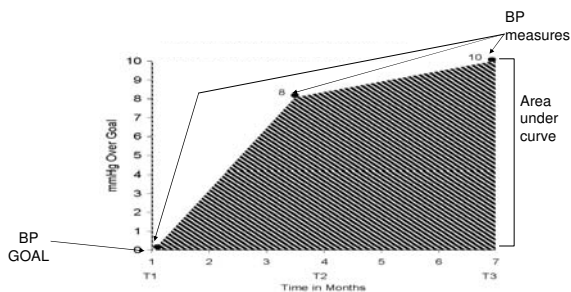
TLC (Time-Level of Control) = Proportion of person-time that a treatment goal is not met, weighted by the degree to which to goal is exceeded

(e.g., blood pressure, HbA1c, lipid levels)

Disease Management Quality

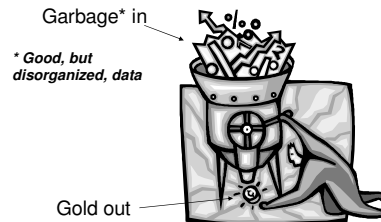
e.g., BP Time & Level of Control Index

TLC = area under the curve of successive measurements this estimates time+amount that an individual is above treatment goal.

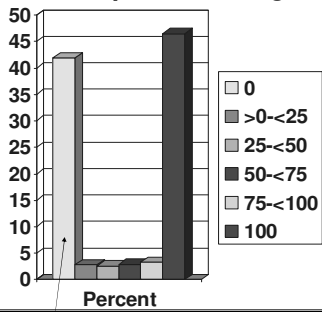


Examples of Person-Time Analyses: How to Define & Resolve Problems

GIGO Revised:



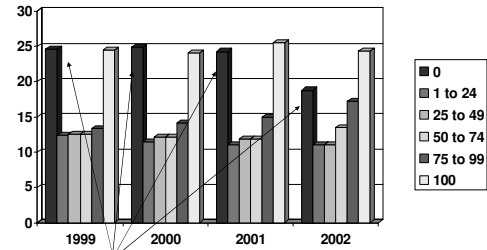
% Persons Fully, Partially, or Not Covered for Lipid Screening in 2002



PROBLEM: Nearly all uncovered time is from the never screened. Much covered time is covered to excess (data not shown)

% of time Hypertensives were below goal in a large HMO, - 1999-2002

NOTE: Y axis is % of population



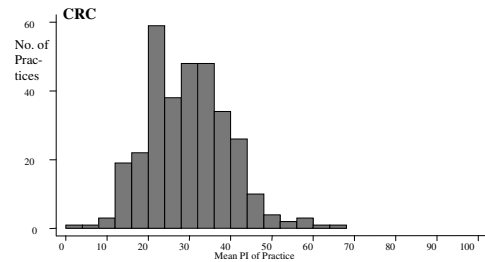
PROBLEM: 18-24% of hypertensive persons never had a single below-goal reading during the entire year; 45% of all person-time in 2002 was above goal (data not shown)

Table 12.1 - PI Means for Influenza Vaccination, Standard Deviations, and Frequencies, >65 years of age, 1998-99 through 2001-02.

Year	Prevention Index	Standard Deviation
1998-99	42.9	39.0
1999-2000	42.0	38.6
2000-01	25.4	28.1
2001-02	24.5	28.1

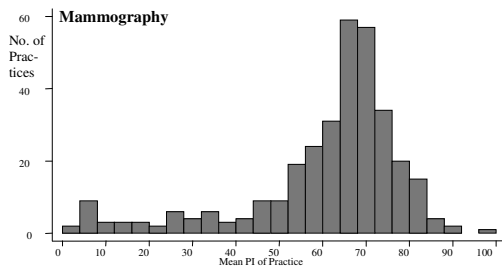
PROBLEM: Large drop in 2001-02 due to late vaccine release—this reduces vaccine effectiveness in proportion to the fraction of the flu season that is missed.

Mean PI by Practice for CRC Screening



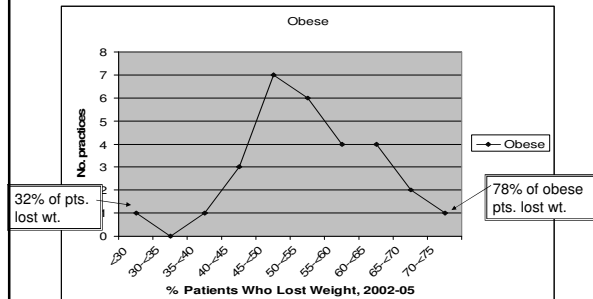
PROBLEM: Average PI around 40; small tails; suggests a system problem and intervention focused on system—probably availability of sigmoidoscopy & colonoscopy slots

Mean PI by Practice for Mammography

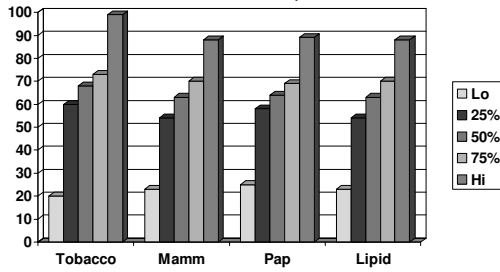


PROBLEM: Wide left tail suggests individual clinician variability and intervention focused on individual clinicians

Proportion of Obese Patients across 29 Clinical Practices Who Lost Weight Between 2002 and 2005

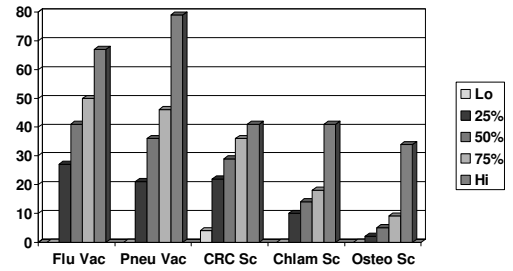


Range of PI Scores Across 336 Primary Care Providers, 2002



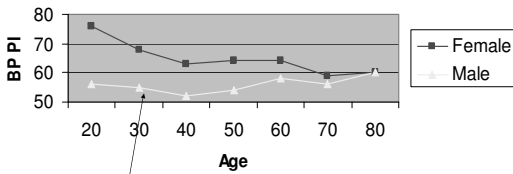
PROBLEM: Large differences between high and low performance; high represents what is possible now in this setting

Range of PI Scores Across 336 Primary Care Providers, 2002



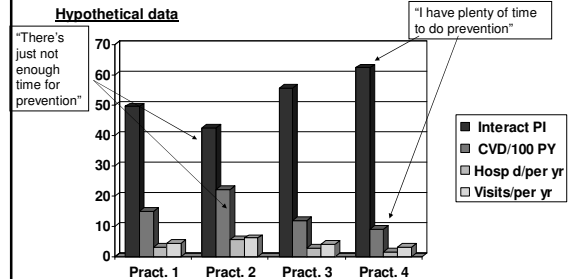
BP Screening by age and gender

Blood Pressure Screening PI 1999-2002 by Age and Gender



PROBLEM: Though younger men are at higher risk than younger women, they are less likely to be screened

Relation of Prevention Index Scores for Interactive Services to Morbidity & Utilization Rates in Four Clinical Practices



Interactive Services require a conversation between patient and clinician – e.g. counseling on smoking, weight, diet, physical activity

Comparison of HEDIS and PI Scores

	HEDIS				PREVENTION INDEX			
	1999	2000	2001	2002	1999	2000	2001	2002
Mammography	79.3	78.9	78.7	76.4	66.4	64.6	63.5	61.9
Pap Screening	80.0	83.0	83.0	85.6	52.6	50.7	50.7	51.4
Chlamydia	NA	NA	48.3	49.7	18.2	18.8	19.2	19.0

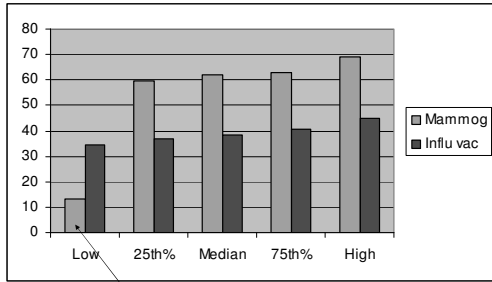
PROBLEM: HEDIS screening scores overestimate coverage because they include non-screening tests and assume that, if there is any coverage at all, the entire year is covered

Source: Vogt et al. Electronic Medical Records and Prevention Quality: The Prevention Index. Amer J Prev Med, 2007;33:291-296.

% of Tests for Diagnostic-Monitoring Vs. Prevention Purposes, KPNW 2002 [Diag-Mon not counted by PI; counted by HEDIS]

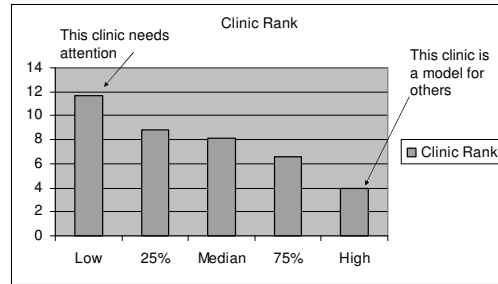
Test	% Diag-Mon	% Preventive
Mammography	36.8	63.2
Pap Test	22.4	77.6
Lipid Screen	47.8	52.2
Blood Pressure	53.2	46.8
Osteoporosis	33.9	66.1
Chlamydia	41.2	58.8

2002 PI Scores across 15 Clinics for Mammography and Influenza Vaccine



This clinic was the only one with a different method for mammography referral.

Distribution of Ranks of Mean PI Scores for 9 Services across 15 Clinics



Note wide range of average PI scores across clinic sites; however, individual provider variations are much greater than inter-clinic variations



These Problems Deserve a System Level Response

- Screening low risk more effectively than high risk
- Declining mammography screening rate
- Half of hypertensive person-time is above goal BP
- Half of recommended person time for preventive care is not covered

These Problems Deserve a System Level Response

- Wide range of performance across practices
- Interpreting diagnostic testing as screening success
- Half of preventive care is in excess of recommendations
- How do high performers do it?



What Else Can Person-Time Coverage Do?



- Measure **costs of unnecessary care** to aid in resource re-allocation
- Determine whether guidelines **adherence improves health and/or reduces costs**

Excess/Deficit Expenditures Per Adult Member in a large HMO, 1996 dollars

Clinical Services	Excess Costs	Deficit Costs	Net Costs
Blood pressure	\$8.08	\$0.63	+\$7.45
Colorectal cancer screen	1.38	3.23	-1.86
Mammography screen	4.97	0.57	+4.40
Pap smear screen	9.57	2.10	+7.47
Lipid screen	1.52	0.48	+1.04
Pneumococcal vaccine	0.17	1.97	-1.79
Influenza vaccine	1.27	0.54	+0.73
Total	\$26.96	\$9.52	+\$17.44

Amt saved if USPSTF recommendations followed

Excess costs = costs for non-recommended services (USPSTF)
Deficit costs = costs to deliver recommended services that were not given

Of course, with EMR, we will lose a good laugh once in a while.

REAL EXCERPTS FROM PAPER RECORDS

"Patient gets chest pain if she lies on her left side for over a year."

"She has had no rigors or shaking chills, but her husband states she was very hot in bed last night."

"Discharge status: Alive but without permission. The patient will need disposition, and we will therefore get Dr. X to dispose of him."

"Healthy appearing decrepit 69 year-old male, mentally alert but forgetful."

"The patient left the hospital feeling much better except for her original complaints."

EMR Data Summary

Person-time measures with an EMR and a defined population base can:

- Determine the relation of practice patterns to costs of care
- Allocate resources more rationally
- Generate patient, practice, clinic, and system specific risk and adherence profiles

II. Changing Personal Behaviors

"Lifestyle interventions [are] largely outside the paradigm of what the health care industry perceives as its proper business."

Vogt T & Stevens V
The Permanente Journal, 2003;7:11-20

Personal Beliefs That Contribute to the Problem

- If I'm insured, I'm entitled to unlimited medical care regardless of the evidence base and cost
- My health is largely the doctor's responsibility, not mine.
- Once I have made a change (e.g., lost 5 lbs), I can go back to doing things like I used to

Changing Personal Behaviors

Sustained health behavior changes require:

- Credible & consistent sources of advice and information (MDs are most credible; schools & worksites most consistent)
- Personal commitment
- Knowledge of healthy behaviors
- Support from family, colleagues, & environment
- Long-term maintenance; a change in life style

Changing Personal Behaviors

- Realistic expectations – Health systems are stewards of health care dollars. You get what works; more is often worse, not better (e.g., 90,000 iatrogenic deaths/yr in US).
- Health systems must support healthy lifestyle behaviors as they do for treatment
 - Care standards
 - Accountability
 - Liability

Summary: Changing Personal Behaviors

- Changes in lifestyle are difficult to sustain
- Individual choices are the single most important determinant of most persons' health
- Consistent messages, social and environmental support, and strong commitment improve long-term results
- Realistic expectations are necessary to optimize our health care

Summary: Changing Personal Behaviors

- Individuals need credible information, support and encouragement for behavior change, and the tools to achieve and maintain behavior change

NOTE: They don't get these things from the schools or from the health care system or from the government.

III. Changing System Behaviors

"Up to two decades may pass before the findings of original research become part of routine clinical practice."

Translating Research Into Practice (TRIP)-II. Fact Sheet. AHRQ Publication No. 01-P017, March 2001.

Health System Beliefs That Contribute to the Problem

- Lifestyle issues aren't the responsibility of doctors; besides, they aren't effective even when they try
- Treating disease is more important than preventing it
- If someone is insured, they are entitled to any care they want
- To compete we must have all the latest technology under our roof

Changing Health System Behaviors

1. Prioritize facilities and services to maximize benefit
2. Reduce unnecessary care
3. Reduce bureaucracy
4. Practice evidence-based medicine – research into practice
5. Share risk – Cheap plans for the young and healthy are incompatible with a viable health care system
6. Be accountable for effective, evidence-based preventive care

Education System Beliefs That Contribute to the Problem

- Health behaviors are a trivial, boring part of curriculum that deserve little serious attention
- Physical activity should be extracurricular; students are here to learn, not exercise
- People learn this stuff on their own or from doctors; it's not our responsibility

Changing Education Behaviors

- Teach sound nutrition & physical activity practices
- Model sound nutrition & physical activity practices:
 - Healthy, good tasting foods in cafeteria and vending machines
 - Require fun physical activity through all grades

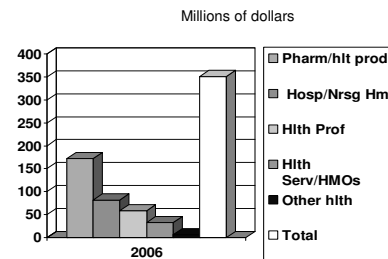
Political System Beliefs That Contribute to the Problem

- Corporations are entitled to “buy” congressional support through campaign contributions
- The US leads the world in health care; we have nothing to learn from other nations
- Health care reform is death to politicians; avoid it
- Single payer systems are “socialized medicine” and, therefore are evil

Changing Political Behaviors

- Use scientific expertise to make policies and laws
- Eliminate special interest funding of political campaigns
- Look at the data and learn from other nations that are doing it better
- Demand health care reform--don't vote for politicians who avoid it

Health Industry Lobbying Contributions to Congress, 2006



Source: The Center for Responsive Politics.
<http://www.opensecrets.org/lobbyists/indus.asp?Ind=H&cycle=2006>

Health Industry Lobbying Contributions To Congress

- Increase in lobbying contributions for health since 1990: 456%
- Amount given per congressional candidate, 2006: \$161,125
- % that goes to keep incumbents incumbent: 83%
- % of 2006 money to:

Republicans	63
Democrats	37

Source: The Center for Responsive Politics.
<http://www.opensecrets.org/lobbyists/indus.asp?Ind=H&cycle=2006>

Changing Behaviors: System Level

A sound health care system requires legislative change.



Special interest money distorts the legislative process so that these problems cannot be seriously addressed.

Changes Must Occur to avoid health care collapse

Change	Personal	Health Syst	Legislation
Prioritize care	X	X	X
↓ Unnecessary care	X	X	X
↓ Bureaucracy		X	X
Evidence-based Med	X	X	X
Return to shared risk			X
Special Interests	X	X	X

A Challenge to Behavioral Researchers

There is a large literature on changing personal behaviors. It's difficult, but possible. We need to apply this to consumers in the health system.

There is little literature on changing institutional behaviors. Both research and action are greatly needed here.

Summary: Changing Systems

Individuals, health systems, and legislators all must act if our health system is to survive and provide quality care to the entire population.

Many oxen will be gored, and a lot of folks will resist the needed changes.

The status quo is no longer an option.

