A Nation in Need of Resuscitation

Like a person suffering from a debilitating disease, healthcare delivery in the United States is ailing. The U.S. spends significantly more per capita and a higher percentage of GDP on healthcare than other developed nations, yet our patient outcomes (e.g., mortality, safety, access to medical care) are disparate and inconsistent. Moreover, the rapidly rising costs of healthcare delivery are making medical care increasingly unaffordable to the average citizen and threaten our national financial viability. Not unlike a very ill patient on life support, this confluence of issues requires immediate attention and action. Something needs to be done to fix the American healthcare delivery system; it is not sustainable in its current form.

How did we get here? Although unhealthy lifestyles and the growing and aging population are undoubtedly contributing to the rise in healthcare costs, two key factors must not be underestimated: a) advances in medical technology (e.g., new treatments and procedures that expand the range of available medical services) and b) powerful system incentives that inadvertently advance unchecked utilization throughout the healthcare delivery system:

- Healthcare providers have many financial, legal, and societal incentives to provide more care (e.g., reimbursement is primarily volume-based).
- At the same time, consumers demand healthcare services without regard for full economic impact of treatment since someone else (e.g., government, third-party payers) often pays most of the bill.

Thus far, efforts to tie healthcare delivery spending to patient outcomes have been very limited and, at times, unintentionally misguided (e.g., the CMS “pay for performance” program is in fact “pay for compliance with process”).

So what can we do? How do we resuscitate our health system and get it off life support? In this publication, Denis A. Cortese, MD and Robert K. Smoldt, MBA draw on nearly 80 years of combined experience in healthcare delivery, to help U.S. citizens and leaders understand the concepts and options for improving healthcare delivery, and outline a roadmap for a high-value healthcare delivery system, a system that produces the best patient outcomes at the lowest costs. Healthcare professionals, policy-makers, and concerned citizens will all benefit from considering their point of view.

Senator Howard H. Baker, Jr., Former Majority Leader, United States Senate; Former United States Ambassador to Japan
Helen Darling, President and CEO, National Business Group on Health
John Doerr, Partner, Kleiner Perkins Caufield & Byers
Peter Orszag, PhD, Vice Chairman, Citigroup
Hon. David M. Walker, Former U.S. Comptroller General
James N. Weinstein, DO, MSc, President and CEO, Dartmouth-Hitchcock Health System
Preface

This publication is a culmination of nearly 40 years (each) of immersion in and observation of actual delivery of healthcare. Our long standing interest in health policy has resulted in the establishment of the Mayo Health Policy Center and has been carried forward through our Healthcare Delivery and Policy Program at Arizona State University and the affiliated Healthcare Transformation Institute (HTI). The report aims to outline the current state of the nation’s healthcare delivery system, the resulting fiscal challenges facing the nation and its citizens, and a set of solutions and roadmap toward establishing a high value healthcare delivery system. We recognize that the overall health of the population is a very broad topic. Therefore, we focus primarily on healthcare delivery (and how we pay for it) because of its immediate cost impact on the U.S. economy and the implications for the future viability of the country.

This report would not have been possible without the excellent contributions of Dr. Natalie Landman in regard to the publication’s content and composition. We would like to thank Bruce Kelly for his profound suggestions. In addition, John Doerr, Mary Meeker and Liang Wu provided inspiration and insights throughout the development of this report. We would also like to thank the numerous colleagues around the country who reviewed early drafts and whose feedback made this report significantly better. Finally, we would like to extend our gratitude to Arizona State University, the Chan Soon-Shiong Family Foundation and the University of Arizona for their support in launching HTI.

We hope that this report will engage and energize healthcare providers to find ways to improve both the effectiveness and efficiency of the care we provide; stimulate further public discussions around healthcare delivery and the challenges it presents to our nation; and drive real legislative actions to help move us forward in a sustainable way. You can view the report online at http://healthcaretransformationinstitute.org/ and in print through www.amazon.com.

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June 2012
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What is the problem with U.S. healthcare delivery?

We are not getting the results we desire for the money we are paying.
What are the symptoms?

• The same U.S. healthcare delivery system produces some of the world’s best health outcomes – and some of the worst.
• High U.S. spending on healthcare delivery does not necessarily lead to better health outcomes.
• Access to medical care is unequal and inconsistent.

Where do we want to be in ten years?

• Right care for the right patient at the right time.
• Better value in healthcare delivery (better patient outcomes and lower costs).
• Slower growth in healthcare spending.
How do we start?

Change the existing healthcare provider financial incentives and start paying for value.

Outline

1. The U.S. needs better health and healthcare delivery.
2. Fundamentals of a high-value healthcare delivery system: where are we now?
3. Fallacies about improving U.S. healthcare delivery.
4. What are we striving for?
5. We all need to change; the payoff can be substantial.
6. Where do we start?
1. THE U.S. NEEDS BETTER HEALTH AND HEALTHCARE DELIVERY

Our premise

• The U.S. needs:
  — A healthy population.
  — A high-value healthcare delivery system.

• Healthy population and high-value healthcare delivery are not the same.
U.S. life expectancy lags behind the top OECD country

- Japan (2006) 82.4 years
- U.S. (2006) 78.1 years

But life expectancy is a poor measure of the healthcare delivery system quality!

Segments of the U.S. population have the best life expectancy in the world, yet receive care in the U.S. healthcare delivery system

- Japan (2006) 82.4 years
- U.S. (2006) 78.1 years
- LA county Asian-Pacific Islander Americans (2006) 84.8 years
- California Adventists (1988) 83.5 years
  - No smoking, diet, exercise, weight


* OECD = Organisation for Economic Co-operation and Development.
Healthcare delivery is a minor determinant of overall health


But healthcare delivery can make a difference: For example, the U.S. is a leader in the diagnosis and treatment of cancer

5-year relative survival rate (1990-1999)*
Percent

Women diagnosed with cancer of the breast

Men diagnosed with cancer of the prostate

* Estimate for Cuba not shown.
Our scope

We will focus primarily on healthcare delivery (and how we pay for it) because of its immediate cost impact on the U.S. economy and the implications for the future viability of the country.

Our objectives

• To help U.S. citizens and leaders understand the concepts and options for improving healthcare delivery.
• To establish a roadmap for a high-value healthcare delivery system, not a roadmap for the cheapest healthcare delivery system.
Our motto is the same as that of Desert Dog auto repair store...

*Cheap is rarely good value nor Expensive necessarily the best.*
2. FUNDAMENTALS OF A HIGH-VALUE HEALTHCARE DELIVERY SYSTEM: WHERE ARE WE NOW?

What makes a high-value healthcare delivery system?

\[
\text{Value} = \frac{\text{Patient Outcomes}}{\text{Total Cost}}
\]

Patient Outcomes may include mortality, safety, service, access, fewer complications, less rework, faster return to work or functionality. It may mean readiness or productivity in different groups, e.g., individual, employee, workforce, military, student.

Total Cost may be spending over a defined time for a particular patient, a condition, a population, or a payer.
Patient outcomes: Where are we now?

- Huge variability – the same U.S. healthcare system produces both the worst and best mortality outcomes.
- Lagging in safety – despite many efforts, the U.S. healthcare safety record has much room for improvement.
- Uneven service – patient experience and satisfaction with healthcare is highly uneven.

Despite poor overall mortality outcomes, some U.S. states fare better than the best OECD countries

Deaths before age 75 potentially preventable with timely and appropriate medical care (international data 2002-2003, state data 2004-2005)*
Deaths per 100,000 population

* Top 5 states: MN, UT, VT, CO, NE; Bottom 5 states: LA, MS, AR, TN, AL; excludes District of Columbia data.
You would expect teaching hospitals to have the best patient outcomes because of their access to the latest technology and use of best clinical practices...

But even teaching hospitals show wide variability in outcomes

<table>
<thead>
<tr>
<th>COTH hospitals*</th>
<th>Mortality ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Best hospital in category</td>
<td>2.06</td>
</tr>
<tr>
<td>• Worst hospital in category</td>
<td>0.65</td>
</tr>
<tr>
<td>• Teaching hospital average</td>
<td>1.02</td>
</tr>
</tbody>
</table>

* COTH = Council of Teaching Hospitals and Health Systems; n = 269 COTH member facilities (excludes COTH member VA and Children’s hospitals, as well as facilities with <50 actual deaths in 2009); Mortality ratio for each facility is calculated as expected deaths/observed deaths in a given year.
To Err is Human: Building a Safer Health System, a landmark 1999 report by the Institute of Medicine, estimated that avoidable medical errors contributed to 44,000-98,000 annual deaths in the U.S.¹

This number of deaths is the equivalent of a 747 crashing every few days.


More than 10 years later, and despite numerous safety initiatives, the problem of medical errors remains

• In 2010, the Department of Health & Human Services (DHHS) reported that¹
  – 13.5% of hospitalized Medicare beneficiaries – nearly one in seven – experienced an adverse medical event, while an additional 13.5% experienced events that resulted in temporary harm.*
  – 44% of these adverse and temporary events were determined to be clearly or likely preventable.
• A 2011 study by Classen et al., in a broader patient sample, found that one in three patients in the U.S. experiences an adverse event** during a hospital stay.²

* An adverse medical event was defined as an event that meets at least one of the following criteria: a) the event was on the NSQF list of Serious Reportable Events, b) the event was on Medicare’s list of Hospital Acquired Conditions, c) the event resulted in one of the four most serious categories on the NCC MERP index (http://www.nccmerp.org/mederrcatindex.html); temporary harm events were defined as events classified as E level harm on the NCC MERP index.
** An adverse event here would fall into the E-I levels of harm on the NCC MERP index.

Medical errors also increase medical costs

• The same DHHS report estimated that in 2008 Medicare spent an additional $4.4 billion on care associated with adverse events.¹

• The Denver Health Practice of Milliman, one of the world’s largest independent actuarial and consulting firms, estimates that in 2008 medical errors cost the U.S. ~$17.1B.²

Satisfaction with inpatient services is highly variable

• The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey is a national, standardized, publicly reported survey of patients’ perspectives of hospital care.

• The survey asks discharged patients questions about their recent hospital stays and is administered to randomly selected adult patients across medical conditions between 48 hours and six weeks following discharge.

• The January 2012 HCAHPS release showed that 83% of patients were highly satisfied with their experience at the best ranked hospitals, while only 52% reported the same level of satisfaction in facilities ranked in the bottom 5%.


Cost: Where are we now?

- U.S. spends significantly more per capita and a higher percentage of GDP on healthcare than other countries.
- High spending does not translate into better outcomes.
- Healthcare delivery spending increases with medical technology advances, and as more people gain access to it, without regard for full cost of care.
- These spending trends are major contributors to the growing U.S. debt.
- These trends are unsustainable.

U.S. spends significantly more on healthcare per capita than other countries

<table>
<thead>
<tr>
<th>Total health expenditures per capita (2009)* PPS</th>
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<tr>
<td>$-    $2,000 $4,000 $6,000 $8,000</td>
<td></td>
</tr>
<tr>
<td>U.S.</td>
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<tr>
<td>Canada</td>
<td></td>
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<tr>
<td>France</td>
<td></td>
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<tr>
<td>U.K.</td>
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* PPP = purchasing power parity, the amount of money needed to purchase the same goods and services in two different countries; used to calculate an implicit foreign exchange rate. Source: OECD Health Data 2011 (accessed February 1, 2012), http://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT.
U.S. spends a higher share of its GDP on healthcare than other countries

Quality and costs of care for Medicare patients hospitalized for heart attacks, hip fractures, or colon cancer by hospital referral region (2004)

Higher spending does not correlate with better outcomes, suggesting system waste and room for improvement

* Indexed to risk-adjusted 1-year survival rate (median=0.70).
** Risk-adjusted spending on hospital and physician services using standardized national prices.

Data: E. Fisher, J. Sutherland, and D. Radley, Dartmouth Medical School analysis of data from a 20% national sample of Medicare beneficiaries.

Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2011.
But the U.S. is not unique in seeing high growth in healthcare expenditures

Growth in health expenditures per capita, CAGR (1990-2009)*

<table>
<thead>
<tr>
<th>Country</th>
<th>Percent</th>
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<tbody>
<tr>
<td>U.K.</td>
<td>0.0%</td>
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<tr>
<td>U.S.</td>
<td>5.0%</td>
</tr>
<tr>
<td>France</td>
<td>4.0%</td>
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<tr>
<td>Canada</td>
<td>3.0%</td>
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</table>

* CAGR = compound annual growth rate, data not adjusted for inflation.

Two key factors drive healthcare delivery costs: technology and system incentives

- **Technology:**
  - Advances in medical technology (e.g., new treatments, procedures, indications) have contributed to the rise in healthcare spending; this trend is expected to continue.

- **System incentives:**
  - Healthcare providers have many financial, legal, etc., incentives to provide more care (e.g., reimbursement is primarily volume-based).
  - At the same time, consumers demand healthcare services without regard for the full economic impact, since they pay only a fraction of the total cost out of pocket.

Source: Meeker, Mary. 2011. USA Inc.: A Basic Summary of America’s Financial Statements, KPCB.
The U.S. has much higher access to expensive medical technology

MRI machines per million population (2010)*


The U.S. shows a higher rate of technology utilization

Rate of cardiac procedures per 100,000 population (2008)

Technology overuse: A case study

The Everett Clinic is a nationally recognized physician group practice that provides care to approximately 250,000 patients per year across its 16 locations throughout Snohomish County, WA.

To manage utilization of diagnostic imaging, one of the fastest growing and most expensive elements in healthcare, a team of healthcare providers at the Everett Clinic established evidence-based criteria to guide the use of advanced imaging procedures (e.g., MRI, CT scans).

Patients now must meet evidence-based indications in order to undergo imaging studies.

The result? A 39% decrease in advanced imaging utilization over two years, saving more than $3.2 million annually.

System incentives: Predominant healthcare payment models promote poor efficiency

“Most healthcare services...are paid separately in silos. Hospitals are paid by diagnostic related groups (DRGs); most physicians by fee-for-service and nursing homes by pre-established rates. There are no financial incentives for different parts of the system to work together on the patient’s behalf.”1

“Fee for service [FFS] theoretically aligns providers and patients’ interests by removing any incentive to deny or refuse potentially beneficial care...The downside is that FFS creates incentives to provide ever more narrowly defined, specialized, and higher priced services, even when expected clinical value added is doubtful or non-existent. Providers gain from delivering more care, but are not rewarded [for], and will often lose revenue from evidence-based parsimony.”2

The legal environment also contributes to higher use rate and inefficiency in the clinic...

- Defensive medicine consists of procedures or tests that a doctor orders to avoid possible future malpractice lawsuits.
- The practice is prevalent among U.S. physicians. According to a survey of 824 physicians in 2005:
  - 93% said they had engaged in the practice of defensive medicine.
  - 59% said they often ordered more diagnostic tests than medically necessary.
  - 52% said they referred patients to other specialists in unnecessary circumstances.
  - 33% said they often prescribed more medications than medically necessary.

...and higher healthcare delivery costs

- Estimates of annual healthcare costs caused by unnecessary care – defensive medicine and associated legal costs – range from ~$50 billion to $200 billion.¹,²

- “The legal environment also should be structured to encourage the sharing of information, perhaps through increased transparency and creation of a ‘safe harbor’ to report poor outcomes or errors.”³


There are low incentives for consumers to control costs when someone else (e.g., government) pays the bills.

Cost is an overriding issue

- Affordability is a growing challenge for the average citizen.
- Medicare and Medicaid are the biggest factors in U.S. federal debt.

Source: Department of Health & Human Services, Centers for Medicare & Medicaid Services; Meeker, Mary. 2011. USA Inc.: A Basic Summary of America’s Financial Statements, KPCB.
Why cost is important to the average citizen: Our children’s and grandchildren’s lives will be affected!

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2029E*</th>
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<tbody>
<tr>
<td>Median annual family</td>
<td>$70,000</td>
<td>$133,510</td>
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<tr>
<td>income for a working</td>
<td></td>
<td></td>
</tr>
<tr>
<td>couple</td>
<td></td>
<td></td>
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<tr>
<td>Average annual family</td>
<td>$13,375</td>
<td>$71,350</td>
</tr>
<tr>
<td>healthcare premium</td>
<td></td>
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<tr>
<td>Healthcare premium as</td>
<td>19%</td>
<td>53%</td>
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<tr>
<td>percent of income</td>
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<td>(Employees currently</td>
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<td>pay only a portion of</td>
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<td>this fee out-of-pocket)</td>
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* E = estimated; assumes a 3.28% annual growth rate for family income based on CAGR of employee wages between 1999-2009 and an 8.73% annual growth rate for healthcare premiums based on healthcare premium CAGR between 1999-2009; numbers are rounded.


Entitlements (Medicare, Medicaid, Social Security) are major contributors to the rise in federal debt

U.S. real federal expenses, entitlement spending, real GDP percent change (1965-2010)

Percent change from 1965

- **Total Federal Expenses** +10.6x
- **Entitlement Programs** +3.3x
- **Real GDP** +2.7x

Data adjusted for inflation.

Source: White House Office of Management and Budget; Meeker, Mary. 2011. USA Inc.: A Basic Summary of America’s Financial Statements, KPCB.
Federal spending on healthcare has grown from 5% in 1970 to 23% of the total federal budget in 2010.

Composition of federal spending (1970-2010)
Percent total spending

<table>
<thead>
<tr>
<th>Year</th>
<th>Other discretionary</th>
<th>Defense</th>
<th>Net interest</th>
<th>Other mandatory</th>
<th>Social security</th>
<th>Healthcare*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>20%</td>
<td>42%</td>
<td>7%</td>
<td>11%</td>
<td>15%</td>
<td>5%</td>
</tr>
<tr>
<td>2010</td>
<td>19%</td>
<td>20%</td>
<td>6%</td>
<td>12%</td>
<td>20%</td>
<td>23%</td>
</tr>
</tbody>
</table>

* Medicare, Medicaid + other health programs (e.g., CHIP)


Entitlement spending + interest payments may exceed U.S. total revenue by 2025E!

Entitlement spending + interest payments vs. revenue as % of GDP (1980-2050E)*
Percent

* E = estimated.

Source: Congressional Budget Office (CBO) Long-Term Budget Outlook (6/10). Note that entitlement spending includes federal government expenditures on Social Security, Medicare and Medicaid. Data in our chart is based on CBO’s ‘alternative fiscal scenarios’ forecast, which assumes a continuation of today’s underlying fiscal policy. Note that CBO also maintains an ‘extended baseline’ scenario, which adheres closely to current law. The alternative fiscal scenario deviates from CBO’s baseline because it incorporates some policy changes that are widely expected to occur (such as extending the 2001-2003 tax cuts rather than letting them expire as scheduled by current law and adjusting physician payment rates to be in line with the Medicare economic index rather than at lower scheduled rates) and that policymakers have regularly made in the past. Meeker, Mary. 2011. USA Inc.: A Basic Summary of America’s Financial Statements. KPCB.
Medicaid: The biggest issues

- Growing number of enrollees:
  - In 1965, when Medicaid was established to provide insurance for the low-income population, 1 in 50 Americans received benefits; now 1 in 6 Americans receives Medicaid.
  - Coverage expanded to include other groups in addition to low-income Americans.
- No trust fund, yet new benefits (e.g., dental) were also added over the years.
- The Affordable Care Act will significantly expand the size of this program.

Source: Meeker, Mary. 2011. USA Inc.: A Basic Summary of America’s Financial Statements. KPCB.

Medicaid: Enrollment is up 12x, while payments per beneficiary are up 4x from 1966 to 2009

Real annual Medicaid payments per beneficiary and enrollment (1966-2009)*

* Data are inflation adjusted; MM = million.
Source: Department of Health & Human Services; Meeker, Mary. 2011. USA Inc.: A Basic Summary of America’s Financial Statements. KPCB.
Medicaid: Underfunded by $3.7 trillion over 45 years with no dedicated funding

U.S. federal real Medicaid expenses (F1966-F2010)*
Medicaid net income ($B)

* U.S. federal fiscal year ends in September. Data are inflation adjusted. Calculation of net present value of liability based on 75-year Medicaid spending projections from CBO, assuming a 3% discount rate (long-run average of real 10-year treasury yields).

Medicaid (and thus government costs) will increase further with health reform bill

- It is estimated that ~16M (or half) of the newly-insured people under the Affordable Care Act will be on Medicaid:
  - Beginning on January 1, 2014, Medicaid will cover nearly all non-elderly individuals up to 133% of the federal poverty guideline.
- The federal government is projected to fund about 95% of this Medicaid expansion between 2014 and 2019. Starting in 2020 the federal matching rate will continue at 90%.

Medicare: The biggest issues

- Growing and aging population:
  - When Medicare was created in 1965 to provide health insurance to the elderly (65+), 1 in 10 Americans received Medicare; now 1 in 7 Americans receives Medicare.
  - Older people use more healthcare services.
- Fewer workers per beneficiary are paying into the Medicare fund.

Source: Department of Health & Human Services; Meeker, Mary. 2011. USA Inc.: A Basic Summary of America's Financial Statements. KPCB.

Medicare: Enrollment up 2x, while payments per beneficiary up 26x from 1966 to 2009

Real annual Medicare payments per beneficiary and enrollment (1966-2009)*

* Data are inflation adjusted using BEA’s GDP price index; MM = million.
Source: Department of Health & Human Services; Meeker, Mary. 2011. USA Inc.: A Basic Summary of America's Financial Statements. KPCB.
The number of Medicare beneficiaries is projected to nearly double by 2030

Number of beneficiaries (1966-2030) Millions


Older people use more healthcare services

Share of population vs. healthcare spending by age group (2004) Percent share of total

Source: Department of Health & Human Services, U.S. Census Bureau; Meeker, Mary. 2011. USA Inc.: A Basic Summary of America’s Financial Statements. KPCB.
Funding is becoming a bigger issue because for each Medicare beneficiary fewer workers are paying in:

- **1970**: 4.6 workers per beneficiary
- **2010**: 3.4 workers per beneficiary
- **2030**: 2.3 workers per beneficiary

In addition to existing $15T in federal debt, the U.S. has significant unfunded liabilities...

- **Social Security**: $10T
- **Medicare**: $25T
- **Medicaid**: $23T

**Medicaid** is paid from general tax revenue each year and does not have a dedicated trust fund.
These unfunded liabilities are a major concern for the financial viability of the country

“...the entitlement programs are not self-funded. They are unfunded liabilities to a significant extent at this point. They are the biggest component of spending going forward.”

Ben Bernanke, Chairman of the Federal Reserve

“In an uncertain world, our currency and credit are well established. But there are serious questions, most immediately about the sustainability of our commitment to growing entitlement programs.”

Paul A. Volcker, former Chairman of the Federal Reserve, former Chairman of President Obama’s Economic Recovery Advisory Board

“Over the next 20 – 30 years, the rising health costs and retirement of the baby boomers are projected to cause deficits that make the current one look puny. At the rate we are going, the U.S. would almost surely default on its debt one day.”

Dr. Christina Romer, former Chair of President Obama’s Council of Economic Advisers

"How did you go bankrupt?
Two ways. Gradually, then suddenly.”

Ernest Hemingway, The Sun Also Rises

Now $50,147!

3. FALLACIES ABOUT IMPROVING U.S. HEALTHCARE DELIVERY

Fallacy #1:
When all U.S. providers finally use electronic medical records, our quality (and cost) problems will be solved.
Background question:
Why has it taken so long for medicine to go electronic when banks have had ATMs for years?

Medical data are substantially more complex than that of a bank

- Basic data set used by banks:
  - Dollars and cents
- Basic data set used by medicine:
  - Number of blood tests: 1,276
  - Number of imaging procedures: 739
  - Number of surgical procedures: 6,003
  - Number of diagnostic codes: ~14,000

And it is about to get more complicated

- Current ICD-9 diagnosis and procedure codes:
  - ~18,000 codes
- Upcoming ICD-10 diagnosis and procedure codes:
  - ~155,000 codes, including (believe it or not):
    - Code V91.07 = “Burn due to water-skis on fire”
    - Code W22.02 = “Walked into lamppost”
  - “Much of the new system is based on a World Health Organization [WHO] code set in use in many countries for more than a decade. Still, the American version...is considerably more fine-grained. The WHO, for instance, didn't see the need for 72 codes about injuries tied to birds.”


Even though these are large numbers, a medical center needs just one Electronic Medical Record system, right?

Number of clinical IT applications at the Mayo Clinic:

613

And they all have to talk to each other!

Source: Mayo Clinic, personal communication to authors.
Moreover, if all we do is turn paper into electronic records and do not change how we deliver care, the results will not change:

**Fallacy #2:**
When everyone is insured, healthcare reform will be complete.
U.S. has more people without insurance than other countries – and coverage across states varies significantly

Percent of population without health insurance (2008-2009)

International variation

<table>
<thead>
<tr>
<th>Country</th>
<th>0</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td></td>
<td></td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>0</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>UK</td>
<td>0</td>
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State variation

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<th>Percentile</th>
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<td>25th</td>
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</tr>
</tbody>
</table>


But other factors play a role in the quality of care

- Implementing the Affordable Care Act (ACA) will expand health insurance coverage and utilization, which is the major issue in cost.

- Many of us are already insured, yet the quality of care varies greatly, with ample room for better outcomes.

- So insuring everyone without changing the delivery system will not, on its own, produce high-value care.
Variability: Some states are twice as likely to rely on hospital care even when outpatient care may be more appropriate

Medicare hospital admissions for conditions where appropriate ambulatory care prevents or reduces the need for admission to the hospital (2006-2007)*

<table>
<thead>
<tr>
<th>States</th>
<th>Admissions per 100,000 beneficiaries</th>
<th>Ratio to benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 states least likely to admit</td>
<td>4,136</td>
<td>Benchmark</td>
</tr>
<tr>
<td>All states - median</td>
<td>6,262</td>
<td>1.5</td>
</tr>
<tr>
<td>5 states most likely to admit</td>
<td>8,768</td>
<td>2.1</td>
</tr>
</tbody>
</table>

* Hospital admissions of fee-for-service Medicare beneficiaries age 65 and older for one of 11 ambulatory care sensitive conditions (AMRQ indicators), e.g., short-term diabetes complications, asthma, chronic obstructive pulmonary disease, hypertension, congestive heart failure; excludes District of Columbia data.

Variability: The same dramatic difference can be seen in the intensity of services during hospitalization

Hospital care intensity index, last two years of life (2005)*

<table>
<thead>
<tr>
<th>States</th>
<th>Rate</th>
<th>Ratio to benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 states with lowest hospital care intensity index</td>
<td>0.556</td>
<td>Benchmark</td>
</tr>
<tr>
<td>All states - median</td>
<td>0.949</td>
<td>1.7</td>
</tr>
<tr>
<td>5 states with highest hospital care intensity index</td>
<td>1.289</td>
<td>2.3</td>
</tr>
</tbody>
</table>

* Index is based on the number of inpatient days and inpatient physician visits among chronically ill Medicare beneficiaries; excludes District of Columbia data.
After its 2006 reforms, Massachusetts has the highest percentage of insured in the U.S.

- The Massachusetts Health Reform Law of 2006:
  - Expanded Medicaid coverage for children up to 300% Federal Poverty Level (FPL).
  - Created subsidized insurance for adults up to 300% FPL.
  - Expanded insurance options for individual direct purchase.
  - Mandated that the middle-income uninsured purchase private insurance or pay a fine; smaller fines also applied to employers who failed to offer insurance benefits.

- Results with regard to insurance coverage have been positive:
  - Since the reforms took effect, 401,000 more MA residents have health insurance coverage, with 98.1% of MA residents now covered.
  - No evidence of subsidized coverage replacing employer-based insurance.


Even in Massachusetts, however, healthcare costs continue to accelerate


Dollars

<table>
<thead>
<tr>
<th>Year</th>
<th>MA</th>
<th>U.S. average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1992</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1994</td>
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<tr>
<td>1996</td>
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<td>1998</td>
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<td>2000</td>
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<td>2002</td>
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<td>2004</td>
<td></td>
<td></td>
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<tr>
<td>2006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ratio of healthcare expenditure growth rate* MA vs. U.S.:
- 1991-2006: 1.1
- 2006-2009: 1.2

* Compound annual growth rate for each period.
Fallacy #3:
The U.S. needs more physicians to improve access to care.

U.S., the U.K., and Canada, all have similar numbers of physicians...

Physicians per 1,000 population (2009)*

<table>
<thead>
<tr>
<th>Country</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>2.4</td>
</tr>
<tr>
<td>U.K.</td>
<td>2.7</td>
</tr>
<tr>
<td>Canada</td>
<td>2.4</td>
</tr>
</tbody>
</table>

* For U.S. and U.K. data refer to practicing physicians, defined as those providing care directly to patients; for Canada data refer to professionally active physicians, including practicing physicians plus other physicians working in the health sector as managers, educators, researchers, etc. (adding another 5-10% of doctors).

But, the U.K. and Canada have more generalists and fewer specialists...

Physicians per 1,000 population (2009)*
Number

<table>
<thead>
<tr>
<th>Country</th>
<th>Primary care</th>
<th>Specialty care</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>0.5</td>
<td>1.5</td>
</tr>
<tr>
<td>U.K.</td>
<td></td>
<td>1.5</td>
</tr>
<tr>
<td>Canada</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Primary care includes: general practice, general pediatrics, obstetrics and gynecology; Specialty care includes: psychiatry, medical group of specialties, surgical group of specialties, other.

So access to specialty treatments is faster in the U.S.

Percent of population waiting for specified periods for care (2010)

<table>
<thead>
<tr>
<th>Country</th>
<th>Wait &gt;1 month for specialist appointment</th>
<th>Wait ≥4 months for elective surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>U.K.</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>Canada</td>
<td>30</td>
<td>40</td>
</tr>
</tbody>
</table>

And the U.S. may already have an oversupply of physicians when compared with integrated group practices...

Prepaid integrated systems use fewer physicians...

Adjusted primary and specialty care provider supply in prepaid group practices compared with U.S. supply (2001-2002)*

MDs/ DOs per 100,000 population

Primary care

Specialty care

* Integrated practices: Kaiser, Group Health, HealthPartners. Data adjusted for difference between the demographics of HMO enrollees and the U.S. population, the extent to which non-employed physicians provide covered care, and the proportion of providers' time spent on patients who are not enrolled with the pre-paid group practice. U.S. supply numbers differ from OECD estimates likely due to differences in survey years and methodology (e.g., counting practicing vs. total physicians).

As do fee for service (FFS) integrated systems

• “...in several of the low input regions, much of the care is provided by large, multispecialty group practices (for example, the Mayo Clinic) or integrated delivery systems (for example, Intermountain Health Care).... Our study suggests that even in FFS environments, group practices use fewer physicians per capita than is true in small-group or solo practices (the dominant modes in most U.S. regions).”

• “Instead of financing further growth in our medical education system, resources might be better directed to reorganizing delivery systems to models of FFS and prepaid group practice that have already demonstrated that they can deliver good care at relatively low costs.”


If we all practice medicine the way integrated practices do, the U.S. already has more physicians than needed, even in primary care.
Moreover, an increase in physician supply would likely carry significant cost implications.

Correlation of MD supply and healthcare costs in U.S. states (2008)

Fallacy #4:
If physicians didn’t make so much money, the healthcare cost problem would be gone.
“Doctors are paid higher fees in the United States than in several other countries, and this is a major factor in the nation’s higher overall cost of care...”


U.S. physicians (specialists and primary care) are compensated at a higher rate than providers in the U.K. and Canada

U.S. specialist physicians earn ~20% more than expected based on GDP levels

Specialist compensation vs. GDP per capita (2004)


But physicians account for only 20% of total healthcare spending

Components of U.S. healthcare spending (2010)

Percent

* Includes 'other health, residential and personal care', 'government administration', 'net cost of health insurance', 'investment'.

So reducing physician income would have a minor impact on total spending

• Physician services account for 20% of total healthcare spending.
• Physician overhead is approximately 50%, so MD income is approximately 10% of total healthcare spending.
• Thus a 20% reduction in physician income = 2% reduction in total healthcare spending.
• But the main factors driving up costs would continue e.g., overutilization!

Fallacy #5: If we just put in price controls and lowered the price paid to providers, the U.S. healthcare cost problem would be solved.
What is the key to restraining healthcare spending?

Total Cost = Total Spending = Price Per Unit of Service $\times$ Use Rate of Service

Price = actual payment per unit of service.

Let’s examine each component individually

Total Cost = Price $\times$ Use Rate
How has Medicare attempted to control its rate of spending?

- Overwhelming complexity.
- Line-item price controls.

How does Medicare calculate the payment for a chest X-ray in Phoenix, AZ? With complicated formulas!

\[
\text{Payment}_{ij} = [\text{Work RVU}_i \times \text{Work GPCI}_j + \text{Practice Expense (PE) RVU}_i \times \text{PE GPCI}_j + \text{Malpractice (PLI) RVU}_i \times \text{PLI GPCI}_j] \times \text{Conversion Factor (CF)}
\]

\[
\text{CF}_{12} = \text{CF}_{11} \times \text{MEI}_{12} \times \text{UAF}_{12} \times \text{Budget Neutrality Adjustment}_{12}
\]

\[
\text{UAF}_{12} = \frac{\text{Target}_{11} - \text{Actual}_{11}}{\text{Actual}_{11}} \times 0.75 + \frac{\text{Target}_{4/96-12/11} - \text{Actual}_{4/96-12/11}}{\text{Actual}_{11} \times (1 + \text{SGR}_{12})} \times 0.33
\]

*Pre-legislation CY11 Conversion Factor
Setting prices requires an enormous amount of effort. Total number of prices set under Medicare Part B*:

1,418,656!

* 21,026 line items and 1-449 geographic areas.
Source: Mayo Clinic, personal communication to authors.

“No matter how simply you begin, your controls will get more complex and voluminous. We started...with 3½ pages of regulations and ended with 1,534. In an effort to correct one inequity, you create another.”

C. Jackson Grayson, Jr.
Chair, U.S. Price Commission (1971-1973)

Annual pricing updates for Medicare providers are nearing the 20,000 page mark. How does anyone keep track?

<table>
<thead>
<tr>
<th>Publication</th>
<th>Number of Federal Register pages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hospital</strong></td>
<td></td>
</tr>
<tr>
<td>• Proposed 2012 Prospective Payment System rule</td>
<td>1,032</td>
</tr>
<tr>
<td>• Hospital Value-Based Purchasing Final Rule</td>
<td>194</td>
</tr>
<tr>
<td>• Hospital Outpatient 2011 Final Rule</td>
<td>1,852</td>
</tr>
<tr>
<td><strong>Physician</strong></td>
<td></td>
</tr>
<tr>
<td>• Physician Fee Schedule 2011 Final</td>
<td>1,562</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>4,643</td>
</tr>
<tr>
<td><em><em>Other estimated pages from CMS</em> and contractors</em>*</td>
<td></td>
</tr>
<tr>
<td>• Contractor bulletins</td>
<td>3,599</td>
</tr>
<tr>
<td>• CMS communications</td>
<td>11,177</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>19,419</td>
</tr>
</tbody>
</table>

* CMS = Centers for Medicare & Medicaid Services.
Source: Mayo Clinic, personal communication to authors.

If price controls worked, all the complexity they introduce might be worth it, but...
Price controls do not result in lower total spending: Physician fees example

Provider expenditures per Medicare beneficiary*

Physician fees

Physician expenditures per Medicare beneficiary*

95
* Fee for service Medicare beneficiaries.

Providers are already paid below their cost by the government and stand to lose more with healthcare reform implementation

U.S. community hospital profit margins by payer class (2007)
Percent

Profit margins from patients with employer sponsored insurance are sufficient to leave hospital industry with positive overall margin, despite being only 36% of inpatient volume.
Reimbursement cuts to Medicare and/or Medicaid would pose significant challenges, as hospitals already realize negative margins from those payer classes.

Reform reliance on across-the-board reductions in Medicare payments has severe implications for providers and patients

- Half of the health reform bill was "paid for" with across the board reductions in what Medicare will pay for medical services.

- These reductions will lead down the road to providers getting 50% less than at present (according to the Medicare actuary).

- As the Medicare actuary said (and as CBO implied), these reductions will lead to less access to providers for Medicare beneficiaries or reduced quality – or both.


Why don’t price controls work in healthcare? The same reason they don’t work elsewhere in the economy...
Grayson’s maxim

“Add [price] controls and you will see ‘new’ services appear. Expect ‘unbundling’ of services with the price of individual units, when added together, totaling more than the original services.”

C. Jackson Grayson, Jr.
Chair, U.S. Price Commission (1971-1973)


The Medicare price control cycle

Cost too high

Reduce line item payment rate to providers

Providers

See more patients per day
Order more tests, images
Costs go up anyway
• So, we shouldn’t be surprised that we are spending less time with our physicians and having more tests ordered.

• It is a natural result of Medicare’s price control approach.

“The secret is not, however, to re-jigger 10,000 prices in 3,000 counties so that we get them ‘right’ once and for all (until medical knowledge or technology or input prices change again).... The secret is to pay for what we want – health – and then monitor our progress toward that end with EHRs [Electronic Health Records] while bundling ever-larger sets of services into one payment, which frees clinicians and providers to find the most efficient way to deliver health, given our particular circumstances.”

Len M. Nichols, PhD
Testimony to U.S. Committee of the Budget, June 26, 2007
• Medicare is committing significant effort to price paid per unit of service, when use rate is actually the more important variable.

• The use rate is a direct function of the medical practice style in the delivery system.

Let’s examine each component individually

\[
\text{Total Cost} = \text{Price} \times \text{Use Rate}
\]
“It’s all about the use rate!”

• "... utilization - not local price differences - drives Medicare regional payment variation....”¹

• “Most of this variation [in Medicare spending] was not due to differences in the price of care in different parts of the country, but rather to differences in the volume....”²

• “...there is nearly a twofold difference between the MSA [Metropolitan Statistical Area] with the greatest service use (the Miami, FL, MSA) and the MSA with the least service use (the La Crosse, WI, MSA) [after adjusting for regional prices, added payments for Graduate Medical Education, demographics, beneficiary health statues, etc.].”³


Additional services provided in high-cost areas are those that depend most on individual physician practice style

| Risk-adjusted ratio of high-spending vs. low-spending regions’ use rates by service |
|---------------------------------|---|---|---|---|---|
| 0.5                             | 1.0 | 1.5 | 2.0 | 2.5 |

Services with existing clinical practice consensus
- Mammogram, women 65-69
- Pneumococcal immunization
- Total hip replacement
- Back surgery

Services where individual clinical practice style prevails
- Total inpatient days
- Inpatient days in ICU or CCU
- Evaluation and management (visits)
- Imaging
- Diagnostic tests

Both high spending areas and low spending areas do mammograms at the same rate per 1,000 population. Thus it is not a factor that makes a high spending area more costly. However, high spending areas use about twice as many ICU days per 1,000 population – thus being a major factor in what drives high cost.

Your likelihood of having a cardiac procedure depends on where you get your care

Locations and angioplasty rates of top 5 U.S. News Best Hospitals: Cardiology and Heart Surgery

- Baltimore, MD: 12.4
- Cleveland, OH: 11.2
- Houston, TX: 10.1
- Rochester, MN: 8.0
- Boston, MA: 7.0

Variability in the rate of angioplasty procedures by hospital referral region (2007)

Sources:

Researchers at Dartmouth concur that clinical practice is key to addressing the issue of healthcare spending

“Efforts to improve the quality and cost of U.S. health care have focused largely on fostering adherence to evidence based guidelines, ignoring the role of clinical judgment in more discretionary settings.... Clinical judgment, not clinical guidelines, should be the focus of policy efforts to improve the quality of care and address disparities in spending.”

4. WHAT ARE WE STRIVING FOR?

Our goal is straightforward

Highest-value healthcare delivery!
• We can achieve a high-value healthcare delivery system by focusing on three key concepts:
  – Pay for value
  – Insurance for all
  – Integration and coordination

• Significant savings are possible – if the right steps are taken.

Key concepts in better healthcare delivery

1. **Pay for value** – All participants in the healthcare delivery system should be paid for value. Incentives must be aligned across the entire continuum of care.

2. **Insurance for all** – Individuals should own their insurance and have the means to choose appropriate medical care.

3. **Integration and coordination** – Care and information must be integrated into all services, creating a seamless, personalized experience for both patients and providers.
Pay for value: Reward results and outcomes, not compliance with process

\[
\text{Value} = \frac{\text{Patient Outcomes}}{\text{Total Cost}}
\]

**Patient Outcomes** may include mortality, safety, service, access, fewer complications, less rework, faster return to work or functionality. It may mean readiness or productivity in different groups, e.g., individual, employee, workforce, military, student.

**Total Cost** may be spending over a defined time for a particular patient, a condition, a population, or a payer.

- The majority of current payment schemes are not tied to patient outcomes or to total cost of care.

- Attempts to institute “pay for performance” schemes have fallen short of true “pay for value” because *performance* has been equated with *compliance with process* – not with patient outcomes.
Existing Pay for Performance (P4P) approaches are not necessarily Pay for Value, but rather Pay for Compliance

“These current [P4P] efforts...carry some risks. Most...are not actually about quality results, but processes. Most ‘pay for performance’ is really pay for compliance. Compliance to too many process standards...runs the risk of inhibiting innovation by the best providers.”

Michael Porter and Elizabeth Teisberg

* Pay for performance is a payment scheme in which a portion of the payment is based on performance assessed against a defined measure.

• As Porter and Teisberg point out, we should concentrate on quality, not process.

• So take the case of two California metropolitan teaching hospitals that treat similar Medicare patients.

• Assume both complete the P4P Medicare processes and receive a 5% P4P bonus.
P4P bonus structure pays for lower efficiency... and worse outcomes!

<table>
<thead>
<tr>
<th>Medical Center A</th>
<th>Medical Center B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care efficiency (utilization &amp; cost)</td>
<td></td>
</tr>
<tr>
<td>• Hospital days per patient</td>
<td>11.1</td>
</tr>
<tr>
<td>• Physician visits per patient</td>
<td>35.5</td>
</tr>
<tr>
<td>• Total Medicare reimbursement per patient ($000)</td>
<td>$37.0</td>
</tr>
<tr>
<td>Care effectiveness (outcomes)</td>
<td></td>
</tr>
<tr>
<td>Mortality ratio (&gt;1 = better than expected)</td>
<td>1.43</td>
</tr>
<tr>
<td>5% P4P bonus</td>
<td>$1,851</td>
</tr>
</tbody>
</table>

* All data are for Medicare beneficiaries, last 6 months of life; data from two prominent teaching hospitals in CA.


P4P process metrics bring few – if any – gains in patient outcomes

- “Among hospitals participating in a voluntary quality-improvement initiative, the pay-for-performance program was not associated with a significant incremental improvement in quality of care or outcomes for acute myocardial infarction.”¹

- “We are aware that improvements in process measures do not necessarily translate into improved clinical outcomes. As illustrated by our results, it is much easier to make sure a patient with diabetes received a [cholesterol] order each year, than it is to ensure that the [cholesterol] is controlled to appropriate levels.”²

- “Our analysis...demonstrates that the current generation of P4P measures based on process is inadequate. Hospital quality measures did not correlate with complications or mortality.”³

Moreover, compliance with process has the potential to stifle clinical innovation

- A number of clinical processes widely accepted in the past have seen significant revisions in current medical practice, e.g.,
  - Bed rest of 3-6 weeks, previously a standard of care following an episode of acute myocardial infarction (AMI), has been shown to be not only unnecessary but potentially harmful to AMI patients.
  - Beta-blockers, that were absolutely contraindicated in patients with congestive heart failure (CHF), are now considered to be standard of care and a key component of the medication regimen in CHF treatment.


What happens when guidelines become dogma?

- 1970s bed rest post AMI strictly enforced?
- 1980/90s no β-blockers for CHF?
- 1990s high tidal volume ventilation?
- 2000s tight glucose control?

These things were hard enough to change in the absence of guidelines. What happens when payment is linked to adherence?
A recent Congressional Budget Office report found that Medicare’s “value-based payments” aren’t paying for value

- Evaluated 10 major Medicare demonstrations over the last twenty years.
- 9 of the 10 did not decrease total cost (and some actually increased total costs).
- Report conclusion: “The [one] bundled-payment demonstration achieved savings for the Medicare program, but the [remaining nine] demonstrations that paid bonuses to providers on the basis of their quality scores* produced little or no savings.”

*Quality was defined as compliance with specific care processes.

Medicare’s idea of value rewards process scores, not outcomes

- Medicare’s Pay for Performance and Value-Based Purchasing pay bonuses to providers based on quality process scores.
- We can expect the same results that CBO found in the demonstrations projects.
- True pay-for-value payments reward providers who get the best outcomes with below-average costs.
Where to start on true Pay for Value

• Start with expensive patients (those hospitalized) and evaluate DRG by DRG.*
• Use lump-sum (bundled) payments to establish Expanded DRGs, and thus encourage judicious use rates:
  – Expanded DRG = Current DRG + (post-discharge care + physician services) related to the medical condition for a specified period of time.

* DRG – Diagnosis Related Group, a patient classification system. It relates the type of patient admission with the costs a hospital incurs, and thus determines how much hospitals are paid.

Bundled payments have the potential to lower costs while improving patient care

• A 2009 Commonwealth Fund survey of healthcare opinion leaders showed that provider payment reform, specifically the move toward bundled payments, was viewed as the primary option to controlling costs while maintaining quality (with 70% of leaders selecting bundled payments as an “extremely effective” or “very effective” option).¹
• “Imagine...a patient who comes to the hospital for a hip replacement. That patient and his insurer...will be billed separately for the X-rays, laboratory tests, the surgeon’s fee, the anesthesiologist’s fee, the rehabilitation services, the hospital bill and the visits to the doctor after he’s discharged. In a bundled payment system, all the bills are rolled into one standard hip-replacement charge. The idea is to force all of a patient’s care providers to work together. They have a strong incentive to eliminate unnecessary tests and treatments and use less expensive implants, drugs and devices that don’t compromise quality, and to prevent infections and other complications that could land the patient back in the hospital.”²

Define outcomes, not process metrics

• True pay-for-value means tying payments to outcomes and costs over time.
• Outcomes should be specific to one condition or DRG.
• Favor independent or private oversight, because:
  • Government efforts are often subject to politics and lobbying.
  • Government defined outcomes are watered down and turned into process measures.

Give providers two to three years to self-organize: Experience shows it can be done

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average length of stay (days)</td>
<td>6.9</td>
<td>6.4</td>
<td>-8%</td>
</tr>
<tr>
<td>Hospital admissions (per 1,000 population)</td>
<td>163</td>
<td>125</td>
<td>-23%</td>
</tr>
<tr>
<td>Hospital days (per 1,000 population)</td>
<td>1,129</td>
<td>800</td>
<td>-29%</td>
</tr>
</tbody>
</table>

* The DRG hospital payment, where hospitals accept a pre-determined lump sum for individual diagnostic categories, was rolled out in 1984 to curb the growth of Medicare healthcare costs.

How to set the payment amount

- Don’t use formulas.
- Use reality-based pricing:
  - Base amount = Cost of resources used by medical centers getting best risk-adjusted outcomes.
  - Payment = Base amount plus 3% (without a small margin even a not-for-profit organization cannot stay in business).


Example distribution of outcomes and costs for a given DRG at teaching hospitals

Each symbol represents a single medical center; EDRG = Expanded DRG

Set base amount at median cost of the top third of hospitals with the best outcomes

Each symbol represents a single medical center; EDRG = Expanded DRG

![Graph showing outcomes versus cost for EDRG “x.”](image)


129

The AMA has suggested additional approaches to pay for value which we feel should be considered

<table>
<thead>
<tr>
<th>Payment model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partial capitation</td>
<td>An Accountable Care Organization (ACO*) receives a pre-defined, risk-adjusted monthly payment to cover all costs of services for a defined beneficiary group.</td>
</tr>
<tr>
<td>Condition-specific</td>
<td>Group of physicians receives a fixed amount to cover all services for a specific condition, such as congestive heart failure.</td>
</tr>
<tr>
<td>capitation</td>
<td></td>
</tr>
<tr>
<td>Accountable medical</td>
<td>Group of physicians receives up-front resources to restructure primary care delivery. It commits, in return, to reducing inappropriate healthcare utilization.</td>
</tr>
<tr>
<td>home</td>
<td></td>
</tr>
<tr>
<td>Inpatient care</td>
<td>Physicians and hospitals set Medicare payment rates and give warranties for inpatient treatment, agreeing not to charge more for infections and complications.</td>
</tr>
<tr>
<td>warranties</td>
<td></td>
</tr>
<tr>
<td>Mentoring programs</td>
<td>Medicare offers financial and technical support (e.g., patient utilization, cost, and quality analyses) to small or solo physician practices working with regional health improvement collaboratives.</td>
</tr>
<tr>
<td>Private contracting</td>
<td>Patients and physicians freely contract for services, allowing them to agree on rates for services without having to forgo Medicare payment.</td>
</tr>
</tbody>
</table>

* ACO = a healthcare delivery model that ties provider reimbursements to quality metrics and reductions in the total cost of care for a given population of patients.

Medicare could lead the way

• Present Medicare reimbursement encourages quantity over value.

• If Medicare moves to true “pay for value,” other payers might take the same approach.

Key concepts in better healthcare delivery

1. **Pay for value** – All participants in the healthcare delivery system should be paid for value. Incentives must be aligned across the entire continuum of care.

2. **Insurance for all** – Individuals should own their insurance and have the means to choose appropriate medical care.

3. **Integration and coordination** – Care and information must be integrated into all services, creating a seamless, personalized experience for both patients and providers.
Lack of insurance is a contributing factor to poor health outcomes...

Mortality amenable to healthcare vs. uninsured population by state
(Mortality data, 2004-2005; Uninsured data, 2008-2009)

And poor chronic disease management

Chronic disease under control by insurance status (1999-2004)*
Adults, 18+ (percent)

* Diabetes: HbA1C <9.0; Blood pressure: <140/90.
Private insurers may be better at controlling utilization, and therefore total costs, than public payers...

A 2009 report in the *New Yorker* by Atul Gawande reported that Medicare spending for the elderly in McAllen, TX is much higher than in El Paso, TX despite essentially the same demographics.

A follow up study on the commercially-insured population in the same communities painted a different picture...

Commercial payers in two Texas towns show better spending and utilization management than Medicare

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Medicare ratio</th>
<th>Commercial ratio¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>McAllen to El Paso</td>
<td>McAllen to El Paso</td>
</tr>
<tr>
<td>Inpatient spending per enrollee</td>
<td>1.63</td>
<td>1.10</td>
</tr>
<tr>
<td>Outpatient spending per enrollee</td>
<td>1.32</td>
<td>0.69</td>
</tr>
<tr>
<td>Total spending per enrollee</td>
<td>1.86</td>
<td>0.93</td>
</tr>
<tr>
<td>Inpatient utilization²</td>
<td>1.31</td>
<td>0.84</td>
</tr>
</tbody>
</table>

¹ Blue Cross and Blue Shield of Texas; ² Per 1,000 enrollees, Medicare ratio calculated based on hospital discharges in the last 2 years of life.


Healthcare costs grew in line with GDP during the Health Maintenance Organizations (HMO) era

Growth in healthcare expenditures vs. GDP in the United States (1990-2009)
Change in growth, percent

Insurance for all: How do we get there?

1. **Consumer choice** has long been a key component of American society:
   - “…it is doubtful if the broad [U.S.] middle class is willing to give up the options, convenience, and quality, which a highly structured service is not likely to give.”
   - Numerous studies have found that choice is a key contributing factor to patients’ satisfaction with their health plans.

2. **Consumer involvement** is key to ensuring an appropriate level of healthcare utilization.


A model like the federal employee benefits program offers patient choice and potential savings

- The Federal Employee Health Benefits Program (FEHBP) administered by the Office of Personnel Management (OPM) is a successful model of premium support:
  - FEHBP enrollees choose from a variety of health plans, including managed care, conventional insurance, high-deductible plans, etc.
  - Enrollees can buy a plan that is more expensive than the capped government contribution and pay the difference out of pocket.
  - OPM’s regulatory role in FEHBP is light, focusing mainly on consumer protection and a level playing field for health plans.
  - FEHBP is exempt from state mandates.
- In 1999, a bipartisan commission estimated that the movement to premium support would slow the growth in Medicare spending by 1-1.5% annually.*

The model has advantages for both patients and providers...

1. The government could focus limited resources on those who need help, an imperative as the baby boom generation reaches Medicare's current eligibility age.
2. Everyone could choose among multiple insurance offerings. Individuals may buy coverage that exceeds the minimum if they wish.
3. Patients may be more fully engaged as purchasers and customers.
4. A dynamic private market could allow more freedom to provide innovation and productivity gains to reduce healthcare costs.
5. The model offers assurance of universal access to a basic level of affordable, market-based health insurance.


As well as a lower regulatory burden

- In contrast to the light regulatory role in FEHBP offerings and administration, the Affordable Care Act (ACA) mandates that every qualified health plan offer an “essential benefits package” to be defined by the Department of Health & Human Services.¹

- As a national exchange exempt from state mandates, the FEHBP has fewer administrative burdens and costs. But the ACA leaves primary implementation with the states, so health insurers must comply both with the federal requirements and with the varying mandates of each state they operate in:
  - “As we have learned with Medicaid, the Health Insurance Portability and Accountability Act (HIPAA), and other programs, state implementation of federally directed programs is at best awkward and at worst ineffectual.”²

The Federal employee model is not without its shortcomings, but they can be addressed

- Government contribution is set such that even if a plan’s premium is so low that the maximum government contribution would cover it fully, the enrollee must still pay 25%, thus making it a potentially prohibitive option for low-income participants.
  - Potential solution: Provide a set dollar amount as the government premium contribution to all participants (e.g., based on 75% of the least expensive plan and up to 100% of the least expensive plan for those who cannot afford any payments).
- FEHBP premiums are not truly adjusted for demographic factors, health risk or geography, thus setting the stage for adverse selection nor do they accurately reflect the value of benefits or plan efficiency.
  - Potential solution: Keep community rating for the employees, but build in incentives that promote efficiency and adjust income for health plans that end up with a disproportionate share of high-risk and high-cost enrollees.

How to pay for government healthcare subsidies: Phase out tax free nature of employer sponsored healthcare

“According to estimates by the staff of the Joint Committee on Taxation, [one of] the three largest tax expenditures* in income tax law...[is the] preferential treatment for employment-based health insurance [>$600 billion in 2010-2014]...uncapped tax expenditures may...encourage overconsumption of the favored good or subsidize activity that would have taken place without the tax incentives. For example...may prompt people to consume more health services than are necessary....”

* Features of the tax code that allow for income exclusions, exemptions, deductions, preferential tax rates, etc., are classified as “tax expenditures” and their costs to the federal government are measured in terms of forgone revenues.
Although, other funding sources are feasible, capping tax-free employer-financed health benefits is the only proposal that can truly offset the costs of healthcare reform.

### Possible “real” funding sources

- Capping tax-free health benefits at 50th percentile, unindexed: $232
- Surtax on high income: $86
- Employer play or pay tax: $28
- Increasing alcohol tax to $16 per proof gallon: $6
- Taxing sweetened beverages 3 cents per 12oz. can: $5

**Source:**

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   - Numerous studies have found that choice is a key contributing factor to patients’ satisfaction with their health plans.

2. **Consumer involvement** is key to ensuring an appropriate level of healthcare utilization.

**Source:**
Changing consumer incentives: The Safeway experience

• Increased individual premium for each of the following: smoking, overweight, high blood pressure, high cholesterol.
• Encouraged employees to take charge by subsidizing high-deductible health plans:
  – Coverage at 100% for preventive services.
  – Company puts half of each employee’s deductible into a Health Savings Account (HSA) or Health Reimbursement Account (HRA).
• Results:
  – 40% reduction in high cholesterol.
  – Total costs to company and employees fell 12%.


Changing consumer incentives: The State of Indiana experience

• In 2006-2007, Indiana expanded its offerings to include two high-deductible Consumer Driven Health Plans (CDHPs):
  – The state funds an employee’s HSA in the amount of 55% of the deductible.
  – Preventive services covered 100%.
• Independent, actuarial review by Mercer confirmed that after adjusting for demographics (age, gender, family size) and health, CDHPs’ annual costs were 10.7% lower than costs of other plans:
  – State savings in 2010 = $17-$23M.
  – Employee savings in 2010 = $7-$8M.

Transition to CDHPs resulted in better utilization of healthcare resources

<table>
<thead>
<tr>
<th>2009 Healthcare utilization</th>
<th>PPO</th>
<th>CDHP2 (% change from PPO)</th>
<th>CDHP1 (% change from PPO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER visits (per 1,000)</td>
<td>308</td>
<td>-32%</td>
<td>-47%</td>
</tr>
<tr>
<td>Physician visits (per 1,000)</td>
<td>5,012</td>
<td>-28%</td>
<td>-46%</td>
</tr>
<tr>
<td>Hospital admissions (per 1,000)</td>
<td>114</td>
<td>-44%</td>
<td>-68%</td>
</tr>
<tr>
<td>Average length of stay (days)</td>
<td>4.9</td>
<td>-16%</td>
<td>-22%</td>
</tr>
<tr>
<td>Average cost per Rx</td>
<td>$ 65</td>
<td>-17%</td>
<td>-38%</td>
</tr>
</tbody>
</table>

* CDHP1 has a higher deductible and higher HSA funding than CDHP2.

Recommendations for payers on health benefit design

- Eliminate co-pays and co-insurance for visits to coordinating, primary provider.
- Vary premium/deductible on such factors, as tobacco use, weight, blood pressure, cholesterol.
- Retrospective rebate on employee cost for prescriptions related to such conditions as congestive heart failure, hypertension, diabetes, if patients fill all prescriptions.
- Establish a CDHP option with preventive care covered at 100%.
- Set employer contribution toward employee premiums as a constant dollar (rather than a defined percentage) amount to encourage CDHP.
Key concepts in better healthcare delivery

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Integration and coordination: For healthcare leaders, the best way to control costs

“How effective do you think each of these proposals for structural change in health services markets would be in reducing the growth of health care costs?”

(Percent responding as either extremely effective or very effective)

- Promote growth of integrated delivery systems: 62%
- Increase supply of PCPs through payment reform: 61%
- Comparative effectiveness research: 54%

Integrated delivery system defined

“A [singular] network of organizations that provides or arranges to provide a coordinated continuum of services to a defined population and is willing to be held clinically and fiscally accountable for the outcomes and health status of the population served.”


Integrated delivery systems exhibit higher quality and better cost containment

- Integrated groups engage in more prevention and health promotion than non-integrated practices (e.g., heart disease screening); they also score better on a variety of outcome measures such as the Healthcare Effectiveness Data and Information Set (HEDIS).  
- Diabetes patients treated within the Veterans Affairs system show better scores than commercial managed care patients on a variety of quality of care measures, including annual exams, cholesterol control and overall satisfaction with care.
- A comparison of the UK National Health System (NHS) with Kaiser Permanente (KP) showed that KP performed better than NHS in quality (e.g., more comprehensive and convenient primary care services) at roughly the same cost per beneficiary.

“[Kaiser Permanente’s] business model integrates fixed-price health insurance with treatment at its own hospitals and clinics. This has led to big efficiency gains, making KP one of the cheapest health-care providers in most of the regional markets in which it competes.”

“Moreover, [Kaiser Permanente’s] medical results are as good as its financial ones. By many clinical measurements, it is the best-performing health-care outfit in the regions it covers.”


Remember, use rate is the key to more efficient healthcare...
### Integrated systems use resources more efficiently: Up to 40-50% fewer ICU days...

**ICU/ CCU days per decedent, last 6 months of life (2007)**

<table>
<thead>
<tr>
<th>Region</th>
<th>Days*</th>
<th>Ratio to benchmark (integrated average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>La Crosse, WI</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>Temple, TX</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Salt Lake City, UT</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>Danville, PA</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>Integrated average</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>3.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Miami, FL</td>
<td>10.1</td>
<td>5.8</td>
</tr>
<tr>
<td>Los Angeles, CA</td>
<td>7.5</td>
<td>4.3</td>
</tr>
</tbody>
</table>

* Rounded

### And as many as 40-50% fewer physician visits

**Physician visits per decedent, last 6 months of life (2003-2007)**

<table>
<thead>
<tr>
<th>Region</th>
<th>Visits</th>
<th>Ratio to benchmark (integrated average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>La Crosse, WI</td>
<td>15.5</td>
<td></td>
</tr>
<tr>
<td>Temple, TX</td>
<td>18.9</td>
<td></td>
</tr>
<tr>
<td>Salt Lake City, UT</td>
<td>15.6</td>
<td></td>
</tr>
<tr>
<td>Danville, PA</td>
<td>22.5</td>
<td></td>
</tr>
<tr>
<td>Integrated average</td>
<td>18.1</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>30.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Miami, FL</td>
<td>56.6</td>
<td>3.1</td>
</tr>
<tr>
<td>Los Angeles, CA</td>
<td>60.3</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Key attributes of high-value care in integrated systems

1. Clear vision and physician alignment with organization’s overall goals:
   • Physician leadership.
   • Use of physician income models that remove link between pay and volume.
2. Creation of a learning organization through the science of healthcare delivery, including:
   • Continuous peer review.
   • Systems engineering initiatives.
   • Continuous search for and use of best practices (i.e., those that yield the best patient outcomes).
   • Decision support systems.
3. Care coordination:
   • Greater use of team-based care.
   • Flexibility to use non-physicians where appropriate.
4. Focus on health promotion:
   • Preventive care.
   • Patient involvement.

5. WE ALL NEED TO CHANGE; THE PAYOFF CAN BE SUBSTANTIAL

The need for change...

If you find yourself in a hole the first thing to do is stop digging.

Source: Don’t Squat With Your Spurs On: Volume No. 2. by Bender, Texas Bix. Copyright 2009. Reproduced with permission of GIBBS SMITH, PUBLISHER in the format Textbook via Copyright Clearance Center.
...involves everyone in healthcare

**PROVIDERS**
- Improve effectiveness and efficiency
- Improve coordination and integration
- Emphasize treatment adherence and prevention

**PAYERS AND EMPLOYERS**
- Encourage prevention, compliance and health
- Adopt value-based benefit design
- Change payment to reward providers for value

**PATIENTS**
- Purchase coverage
- Embrace healthier lifestyles and treatment compliance
- Have a stake in the costs of healthcare

**GOVERNMENT**
- Focus on value and pay only for value
- Help people afford insurance
- Remove barriers for achieving high-value care
- Simplify and standardize billing
- Enact malpractice reform

Specific recommendations (1/2)

- **Change how we pay to encourage good outcomes from fewer resources:**
  - Start with the most expensive patients (those hospitalized).
  - Establish Expanded DRGs with both hospital and physician services and set payment at cost + 3% based on centers with the best outcomes from fewest resources.

- **Other payment approaches after Expanded DRGs are in place:**
  - Establish payments to providers for following the most expensive chronic disease patients.
  - Experiment with mini-capitation, e.g., condition- or population-specific.

- **Insurance for all:**
  - Move to Federal employee benefit model with premium support.
  - Satisfies Democrats’ goal of insuring everyone and Republicans’ goal of a market-based solution.
Specific recommendations (2/2)

Other steps to improve value:
- Establish a common billing form and billing process to trim overhead costs.
- Expand “Coverage with Evidence Development” programs for expensive new technology.
- Develop and communicate best practices for the most expensive medical and surgical conditions.
- Encourage health IT that effectively uses decision support systems (rather than just having an electronic version of a paper record).
- Institute malpractice reform.
- Encourage patient financial incentives in insurance packages—e.g., higher premiums for smoking, overweight, high blood pressure, high cholesterol, etc.
- Promote shared decision-making for expensive procedures: patients review educational material on alternative treatment.

These changes can lead to substantial healthcare cost savings

- If the U.S. could reduce health spending by 6.2% over a ten-year period, health cost growth would be in line with expected GDP growth.

- Although it is unlikely that significant savings can be achieved in the near term, several groups estimate that over a ten-year period, potential cumulative healthcare savings can amount to ~5-10% ($1.6-$3.6 trillion) of total healthcare spending over the same time period.

The 6.2% savings is feasible as the most efficient providers already operate at a 12%-17% savings when compared to the national average.

Top 20% of hospitals are already operating at 12%+ savings when compared with the national average in cost of care

Medicare fee-for-service spending and estimated savings by hospital referral region (2008)

<table>
<thead>
<tr>
<th>Region</th>
<th>Average standardized risk-adjusted per capita costs ($USD)</th>
<th>Potential Medicare savings (% total)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decile 1</td>
<td>$6,194</td>
<td>17.6%</td>
</tr>
<tr>
<td>Decile 2</td>
<td>$6,613</td>
<td>12.5%</td>
</tr>
<tr>
<td>National average**</td>
<td>$7,500</td>
<td>--</td>
</tr>
<tr>
<td>Decile 9</td>
<td>$8,301</td>
<td>--</td>
</tr>
<tr>
<td>Decile 10</td>
<td>$8,849</td>
<td>--</td>
</tr>
</tbody>
</table>

* Total = National average standardized risk-adjusted per capita cost x total Medicare beneficiaries in sample; Total Medicare beneficiaries = 25,832,930; Standardization of Spending: To standardize payment rates, examined Medicare’s various FFS payment systems and identified the factors that lead to different payment rates for the same service (e.g., local wages, input prices, DSH, GME); Estimated what Medicare would have paid for each claim without those adjustments; Risk Adjustment of Spending: Used total Hierarchical Condition Category (HCC) risk scores to risk-adjust spending data; Calculated standardized risk-adjusted costs by taking the standardized costs for each beneficiary in a region and dividing them by his/her actual individual risk score ** Includes VI, PR, DC and unassigned data.

6. WHERE DO WE START?

When trying to contain health costs, remember why robbers rob banks...
In any given year, 20% of the population accounts for ~80% of the cost!

Concentration of healthcare spending in the U.S. population (2009)


Begin with a focused approach to cost control...

- Focus on the sickest patients – start with the five most expensive medical conditions and procedures.
- Improve efficiency and effectiveness for these conditions and procedures based on outcomes and costs over time.
- Once completed, move on to the next most expensive set.
- By reducing costs in this way, more resources may be freed up for broader population health initiatives.
And start paying for value

- Establish Expanded DRGs:
  - Start with Medicare's most expensive DRG (and evaluate DRG by DRG).
  - Agree on outcomes.
  - Set payments based on cost of resources at medical centers with best risk-adjusted outcomes + 3%.
  - Announce a plan and give providers two to three years to self-organize.
- Favor independent or private oversight because:
  - Government efforts are often subject to politics and lobbying.
  - Government defined outcomes are watered down and turned into process measures.

New legislation has some potential to move us in the right direction

- The Affordable Care Act includes features that may lead to high-value care:
  - Contracting directly with provider groups through risk-based payment or salary-based payment.
  - Allowing states to test and fully integrate care for Medicare and Medicaid (dual-eligible) patients, including oversight of all funds.
  - Establishing a high-value care collaborative to implement, document and disseminate proven care methods.
  - Rewarding hospitals to provide high-value care.
However, success of many of these proposals depends on their subsequent implementation.

The current proposal to move to Value-Based Purchasing falls short of true Pay for Value

- Hospital payments will remain on the traditional Medicare payment structure, with a 1% across-the-board reduction in payment to finance incentive payments.
- Incentive payments will be set by a total performance score based on meeting specific *process measures* (70%) and *patient satisfaction scores* (30%).
- Since key components of the value equation – resource utilization and patient outcomes – are not truly factored into the score, the CMS approach will continue to benefit the least efficient or effective providers.

There is also a need for a firm commitment to keep high-value organizations in business.

• Park Nicollet, a large medical group based in St. Louis Park, MN, carried out a “virtual” exercise to redesign primary care delivery.
• In the new concept clinic, patients with routine complaints (e.g., sinus infection) would be treated by less expensive caregivers (e.g., nurse practitioners), sometimes remotely.
• Despite the need to expand office hours and hire additional clinical staff, Park Nicollet estimated that the model will lead to 10-15% cost savings.
• However, given that Medicare pays less or nothing for new delivery models, Park Nicollet discovered that the new concept clinic would run at a 40% loss.
CMS needs to change the way providers are paid to ensure sustainability of healthcare delivery innovation

- On June 15th, 2012 the Center for Medicare & Medicaid Innovation announced its second batch of Healthcare Innovation Awards to support projects that aim to improve health and healthcare while lowering costs for high-need individuals enrolled in Medicare, Medicaid, and the Children’s Health Insurance Program (CHIP).
- These awards provide up to three years of funding and in many cases are being used to cover services, settings, and/ or providers not currently reimbursed by CMS.
- Each application was required to address the financial sustainability of the proposed model beyond the three year grant period.
- Given that CMS is often the final payer for the populations these projects address, unless CMS changes the way providers are reimbursed, sustainability beyond three years remains a concern.

Now that the Supreme Court has made the decision to uphold the Affordable Care Act, it is even more important to improve the effectiveness and efficiency of the healthcare delivery system.

Otherwise, with the increased demand for health services, it will not be affordable.
If we could implement just one thing to get started...

- **Change existing financial incentives and start paying for value:** Set payment based on outcomes and true cost of care by establishing Expanded DRGs.

- If we accomplish this correctly, providers will self-organize into systems that produce high-value care.
Like a person suffering from a debilitating disease, healthcare delivery in the United States is ailing. How did we get here? Although unhealthy lifestyles and the growing and aging population are undoubtedly contributing to the rise in healthcare costs, two key factors must not be underestimated: a) advances in medical technology and b) powerful system incentives that inadvertently advance unchecked utilization throughout the healthcare delivery system.

So what can we do? In this publication, Denis A. Cortese, MD and Robert K. Smoldt, MBA draw on nearly 80 years of combined experience in healthcare delivery, to help U.S. citizens and leaders understand the concepts and options for improving healthcare delivery, and outline a roadmap for a high-value healthcare delivery system. Healthcare professionals, policy-makers, and concerned citizens will all benefit from considering their point of view.

“This excellent document is the best, single, easy to read summary of the problems in U.S. healthcare I have seen. This report provides very promising solutions that would move us away from the clearly failed, dysfunctional payment policies now prevalent in the U.S. From some of the most talented medical leaders in the country, the emphasis on payment reform which would drive significant delivery changes has the greatest probability of success.”

*Helen Darling, President and CEO, National Business Group on Health.*