



# Overview of the Role of Clinical Innovations, Quality Improvement and Cost Containment in Healthcare

**National Congress on Healthcare Clinical Innovations,  
Quality Improvement and Cost Containment  
Sponsored by The Bipartisan Policy Center and The  
Aspen Institute**

**October 26, 2011**



**Sam Nussbaum, M.D.  
Executive Vice President, Clinical Health  
Policy and Chief Medical Officer**

# A Tale of Health Care in Our Nation

***“It was the best of times...***

**Unprecedented advances in medical technology, treatments, and pharmaceuticals can improve population health**



***It was the worst of times...”***

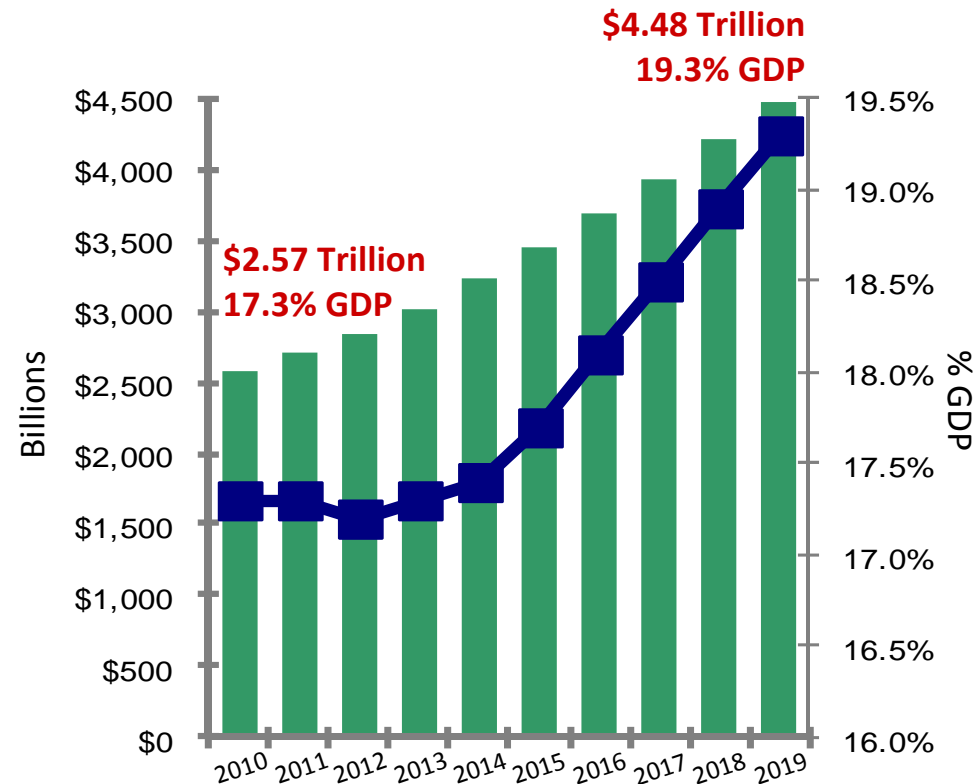
**The state of public health, unsustainable health care costs, the quality of medical care delivered and access to services challenge clinical care and overall health**

*From “A Tale of Two Cities”  
By Charles Dickens*

# Health Care Burning Platform: A System in Need of Change

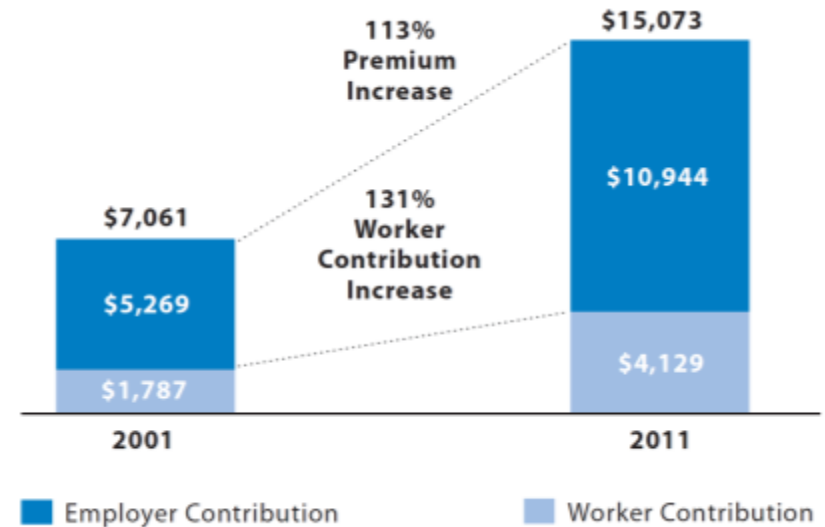


# Health Expenditures



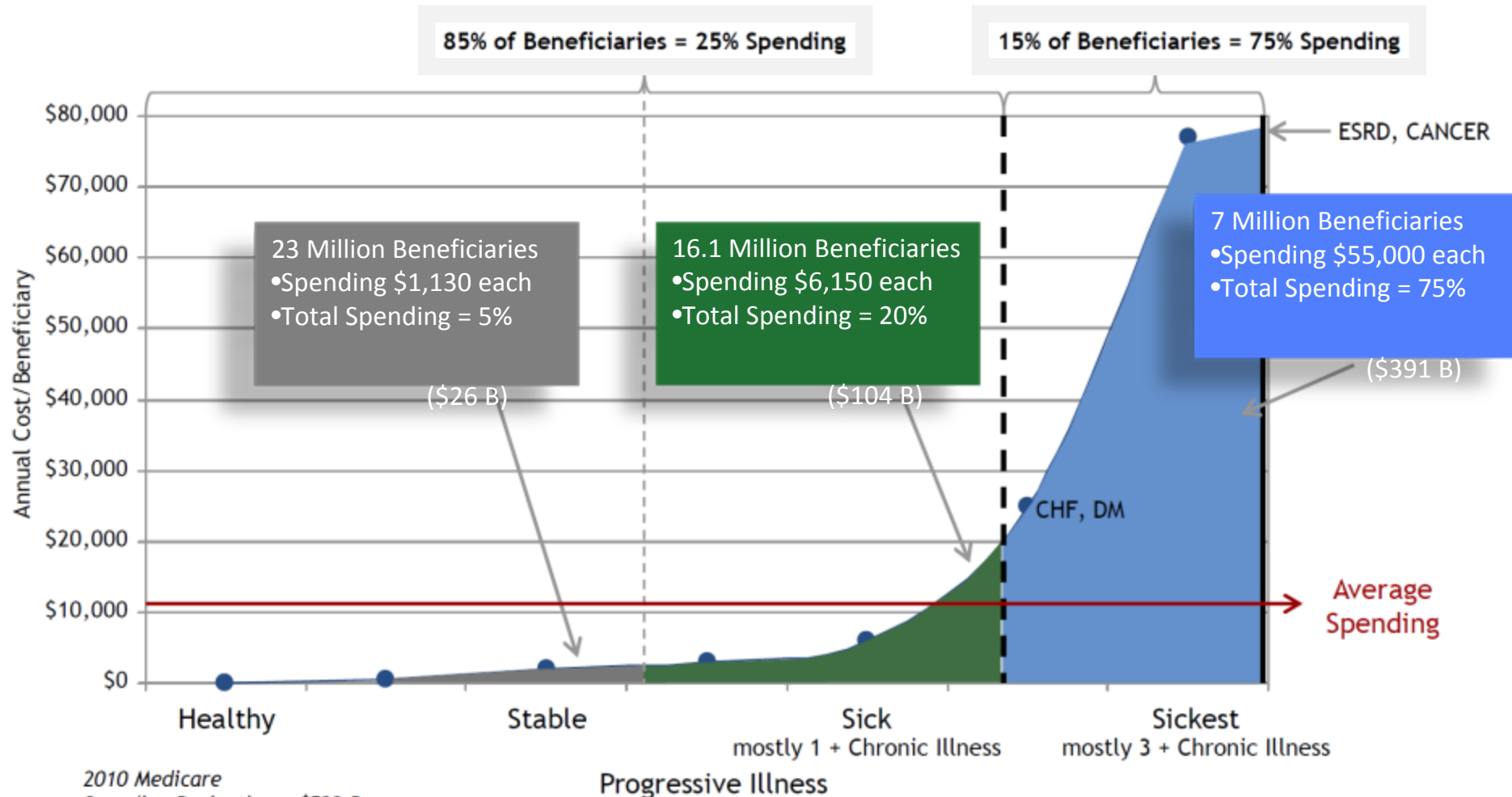
2008 version of the National Health Expenditures (NHE) released in January 2010

**Average Annual Health Insurance Premiums and Worker Contributions for Family Coverage, 2001–2011**



Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 2001-2011.

# Healthcare Costs are Concentrated



2010 Medicare  
Spending Projection = \$522 B  
46 Million Beneficiaries  
Spending Per Beneficiary = \$11,347

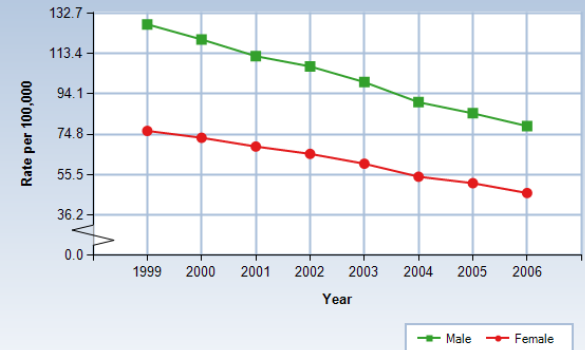
# Discovery and Innovation



**Statins reduce  
cardiac deaths**



**United States - Acute Myocardial Infarction (Heart Attack): Mortality (Viewed by Gender)**



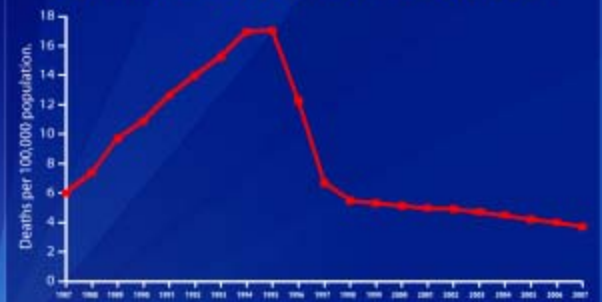
Suggested Citation: Division for Heart Disease and Stroke Prevention: Data Trends & Maps Web site, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion, Atlanta, GA, 2010. Available at <http://www.cdc.gov/dhdsp/>.



**HIV  
Medications  
reduce AIDS  
deaths**



**Trends in Annual Age-Adjusted\* Rate of Death Due to HIV Disease, United States, 1987–2007**



\*Male: First comparison with rates for 1988 and later years; data for 1987–1988 were insufficient for analysis. For AIDS-related mortality of AIDS-related.

\*From the HIV surveillance system, or 2000 US population.



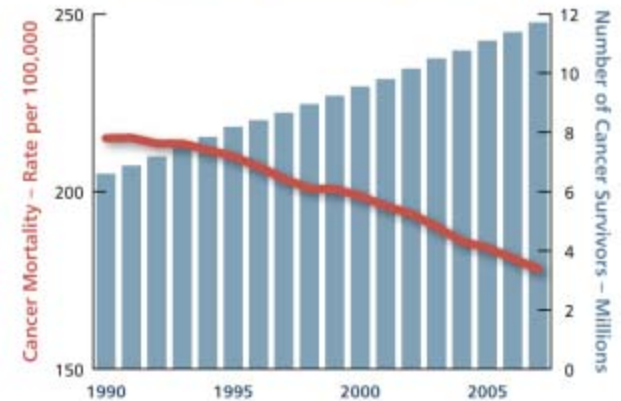
# Discovery and Innovation



**Improved  
screening and  
drugs**



Cancer in the United States, 1990-2007:  
Survival Rising, Mortality Decreasing



Data from the National Cancer Institute on estimated number of cancer survivors and age-adjusted cancer deaths per 100,000 people



**Personalized  
Medicine**





# Discovery/Invention and Clinical Care Innovation



**Surgical  
Robots**

**Surgical  
Checklists**



**Evidence-based  
decision-making**

**Payment  
Reform**



**Genomics and  
Proteomics**

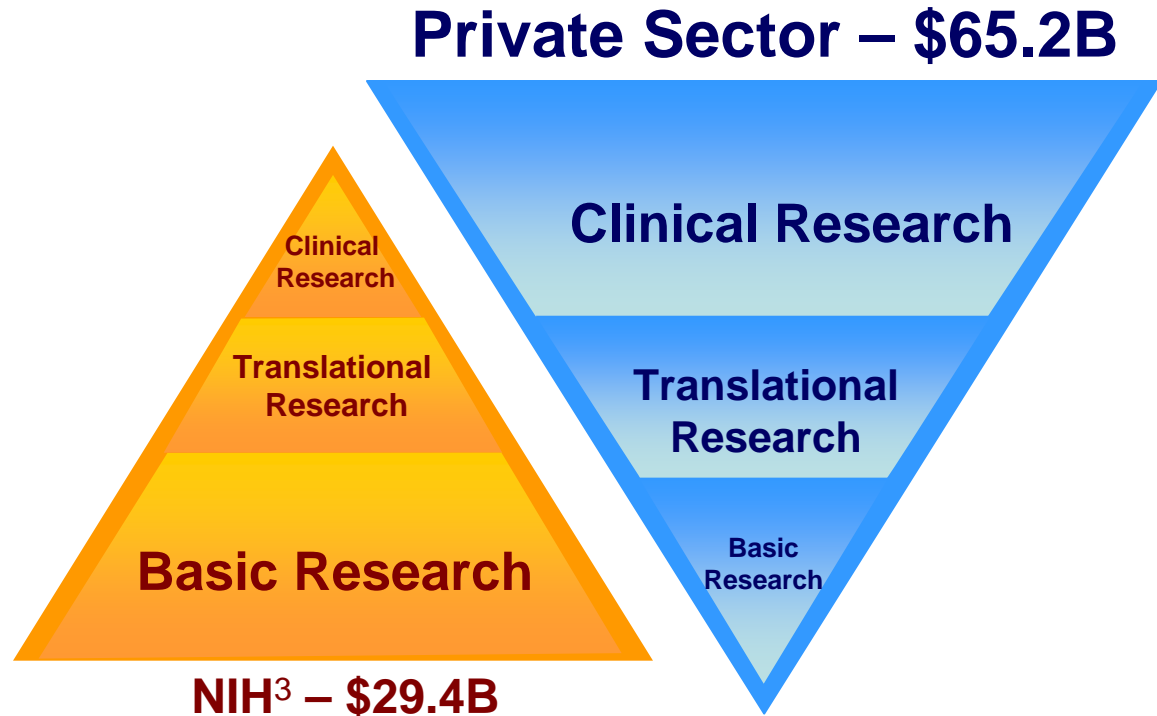
**Specialty drug  
treatments**





# Academia, Government and Industry Research and Development

- 6 of the top 10 companies in global R&D expenditures are biopharmaceutical companies
- Over 2/3 of US patents in biopharma were issued to US-based life science companies
- U.S. leads the world in drug discovery: 2/3 new drugs in last 10 years from U.S.; currently 82% of world's biopharma pipeline from US



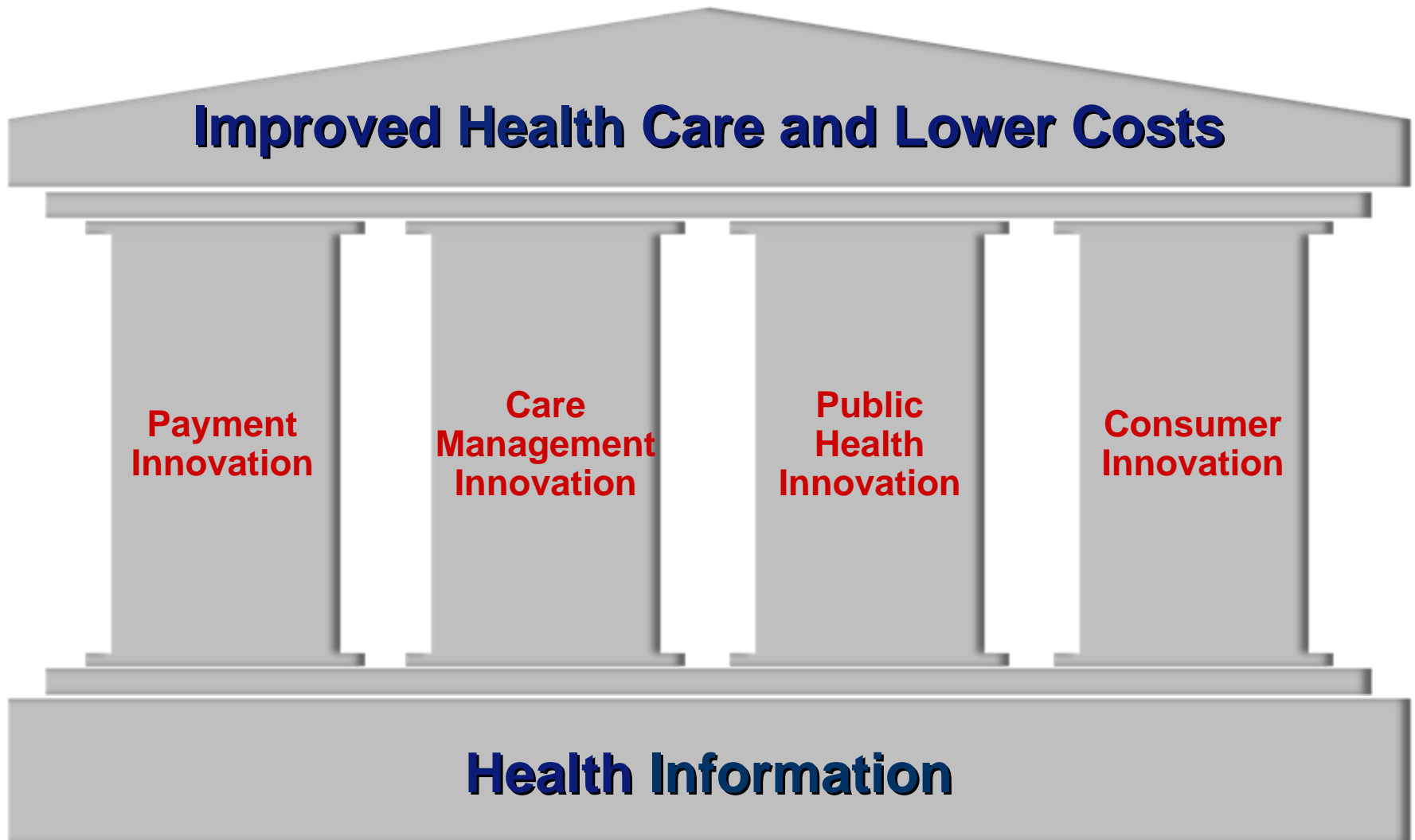
*"There is an ecosystem of science and biotechnology. Public organizations, patient organizations, universities, Congress, FDA, all of this is an ecosystem that is envied in the rest of the world." E. Zerhouni, Director of NIH*

Sources: <sup>1</sup>Burrill & Company, analysis for PhRMA, 2005–2009 (Includes PhRMA research associates and nonmembers) in PhRMA, "Profile 2008, Pharmaceutical Industry;" PhRMA, "PhRMA Annual Membership Survey," 1996-2009; <sup>2</sup>Adapted from E. Zerhouni, Presentation at Transforming Health: Fulfilling the Promise of Research, 2007; <sup>3</sup>NIH Office of the Budget, "FY 2009 President's Budget Request Tabular Data", <http://officeofbudget.od.nih.gov/ui/2008/tabular%20data.pdf>

# Increasing Specialty Drug Development and Associated Costs

- Highly sophisticated protein structures derived from recombinant DNA technologies, most often given by injection or infusion.
- Specialty pharmaceuticals now represent 24% of all drug costs, projected to 40% by 2014
- Expenditures exceed \$73 billion annually, rising at twice the rate of conventional drugs
- Average cost per prescription is nearly \$2,000, with annual treatment costs ranging from \$5,000 to \$350,000
- Over 600 specialty drugs in development for 100 different diseases, including
  - 250 for cancer,
  - 160 for infectious diseases,
  - 60 for autoimmune diseases,
  - 35 for HIV/AIDS

# The Architecture for Innovation



# Payment Innovation: Improving Value and Affordability

## Old Model:

Rate increases not tied  
to value

Reward unit cost

Inadequate focus on  
outcomes

Payment sometimes  
aligned with quality

## New Model:

Rate increases tied only to  
quality, safety, and value

Align all payment  
with quality

Lower cost without  
adversely affecting  
outcomes

Improve quality

# Hospital Quality:

## Q-HIP® Hospital Quality Program

**Q-HIP® Hospital Pay-for-Performance rewards quality, safety, outcomes, and patient satisfaction**

### Patient Safety Section

(35% of total Q-HIP® Score)

- Joint Commission National Patient Safety Goals
- Computerized Physician Order Entry (CPOE) System
- ICU Physician Staffing (IPS) Standards
- NQF Recommended Safe Practices
- IHI 5 Million Lives Campaign – ADE Medication Reconciliation and WHO Surgical Safety Checklist
- CDC/APIC Flu and Pneumonia Vaccine Guidelines
- NQF Perinatal Measures

### Member Satisfaction Section

(10% of Total Q-HIP® Score)

- H-CAHPS Survey Results

### Patient Health Outcomes Section

(55% of total Q-HIP® Score)

#### PCI Indicators

- 5 ACC-NCDR/Indicators for Cardiac Catheterization/PCI

#### Joint Commission/CMS Nat'l Hospital Quality Measures

- Acute Myocardial Infarction (AMI) Indicators
- Heart Failure (HF) Indicators
- Pneumonia (PN) Indicators
- Surgical Care Improvement Project (SCIP)

#### NSC Indicators

- 4 JC/NQF Nursing Sensitive Care Indicators

#### CABG Indicators

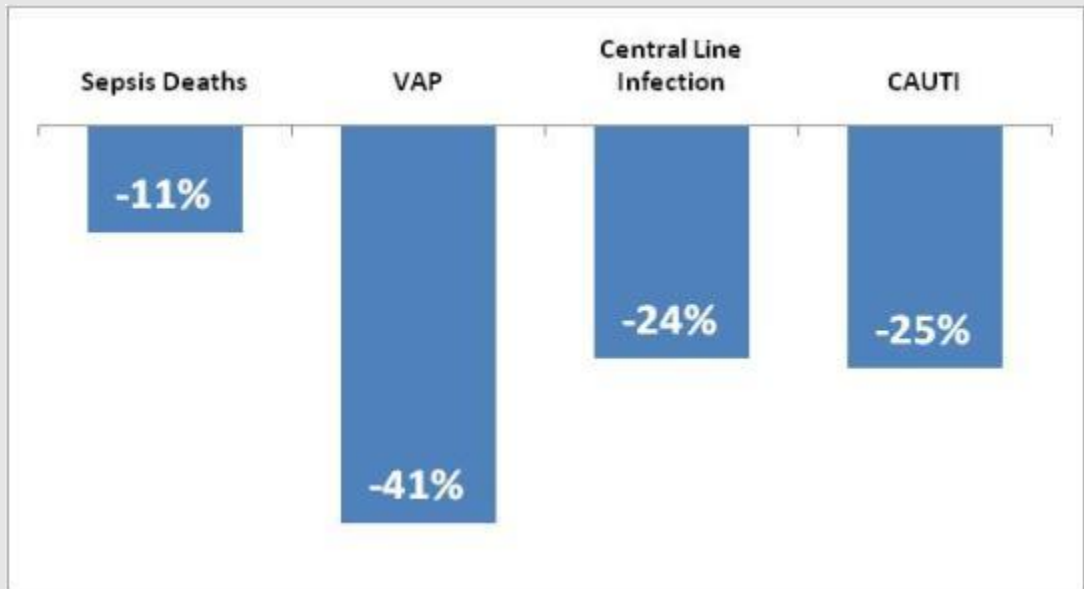
- 5 STS Coronary Artery Bypass Graft (CABG) Measures



**HOSPITAL ASSOCIATION**  
of San Diego and Imperial Counties



## California Patient Safety: 2009-2010





# Highlights of PCMH Results



**COLORADO**

- Quality improvement in nearly all diabetes measures
- 3.6% decrease in acute IP admissions per 1000 per year
- 6.1% decrease in total ER visits per 1000 per year
- 1.3% increase in persistent medication usage



**NEW HAMPSHIRE**

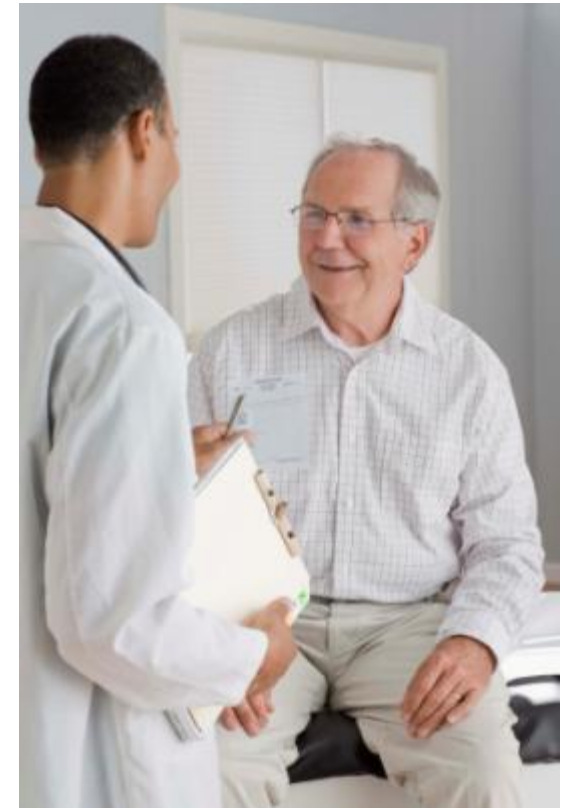


**NEW YORK**

- IP rate per 1000 between 12% - 23% lower for PCMH providers
- ER rate per 1000 between 11% - 17% lower for PCMH providers
- Total medical and Rx cost for PCMH members was 14.5% lower than for members seeing non-PCMH providers

# Improving Primary Care: Comprehensive Primary Care Initiative

- **CMS led private-public initiative testing a primary care service delivery and payment model in 5-7 locations**
  - Service delivery model:
    - Risk-stratified Care Management
    - Access and Continuity
    - Planned Care for Chronic conditions and Preventive Care
    - Patient and Caregiver Engagement
    - Coordination of Care
  - Payment Model: monthly care management fee to primary care practices for FFS Medicare beneficiaries; potential to share savings in 2-4 years
  - Aligned payment from private insurers



# ACOs: The Race to Value-Based Care



**Start:**  
**Fee For Service**

## Key Principles for the Race:

- Primary Care is central
- Commit to evidence-based medicine
- Information at the point of care
- Focus on health, prevention, risk reduction for chronic illness
- Coordination of care



**Finish:**  
**Value-Based Care**



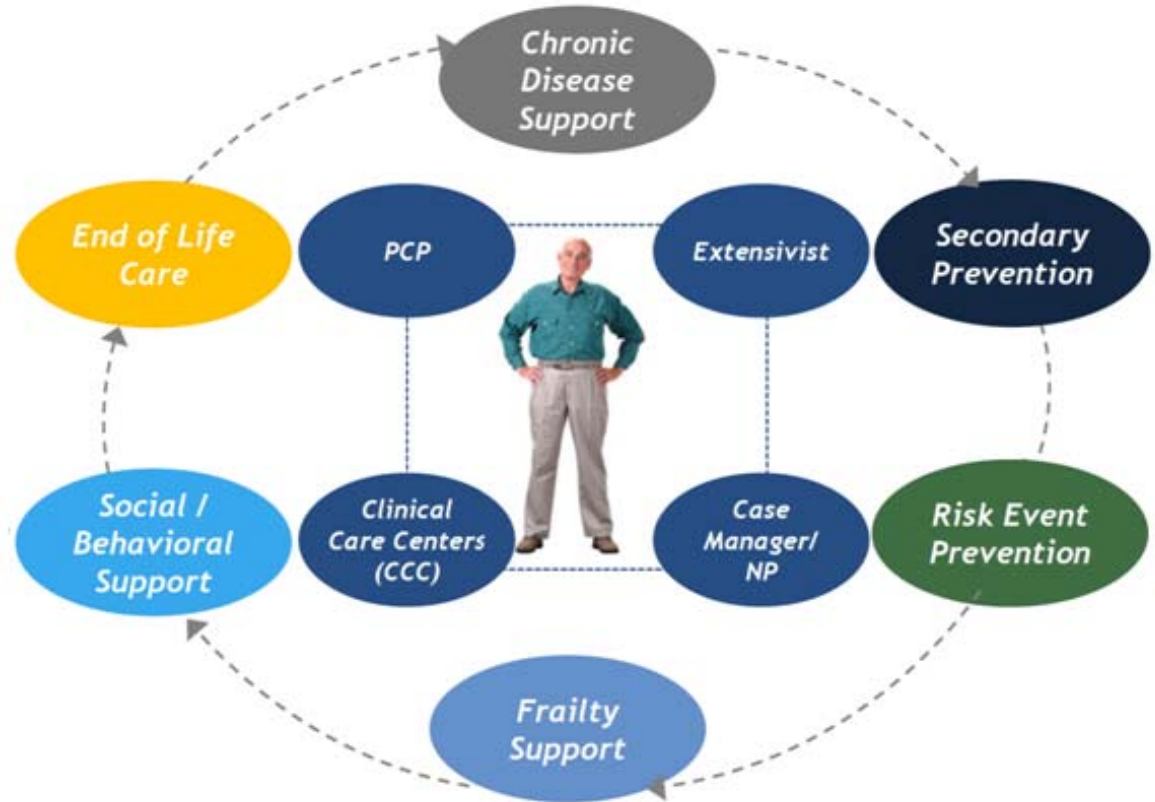
## Concerns Along the Way:

- Attribution
- Overuse of supply sensitive care increases revenue; optimized FFS revenue model
- Payment shifting to private sector; will gain sharing overpower FFS
- Acquisition of specialty practices



# CareMore: Care Innovation

- Care Centers provide a “Healthy Start” initial evaluation and integrated care that offers personalized health planning
- Specialists intensively manage chronically ill members: approximately 20% of members that account for 60% of medical costs
- Biometric monitoring



# Improved Outcomes for Chronic Diseases

## Diabetes



### Result

**7.08 average HbA1c  
for those attending  
diabetes clinic**

## End Stage Renal Disease



### Result

**50% reduction in  
hospital admission  
rate in 5 months**

## Congestive Heart Failure



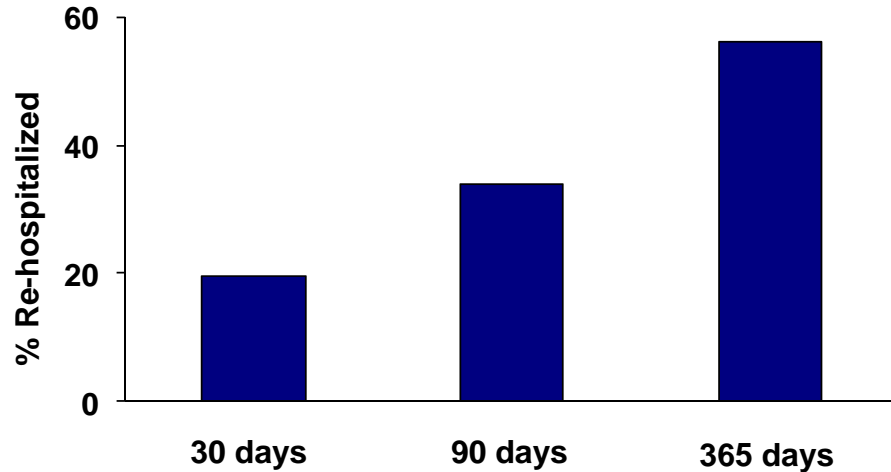
### Result

**56% reduction in  
hospital admission  
rate in 3 months**

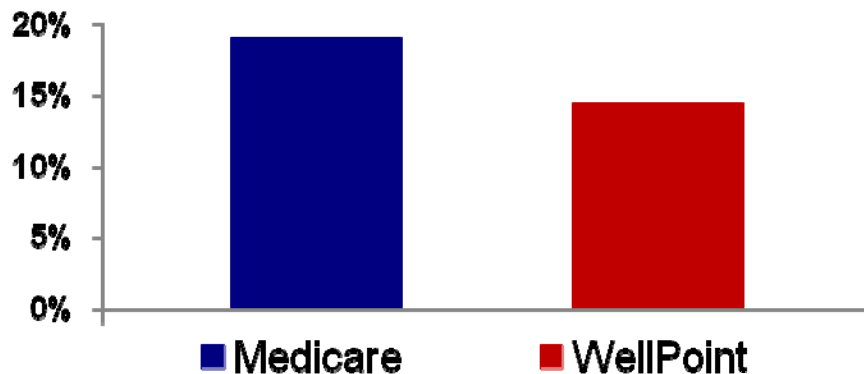


# Preventing Avoidable Re-Hospitalizations

Medicare Re-Hospitalizations



WellPoint 30-Day Re-Hospitalizations



## • Causes

- No scheduled follow-up
- Poor medication compliance
- Unclear discharge instructions

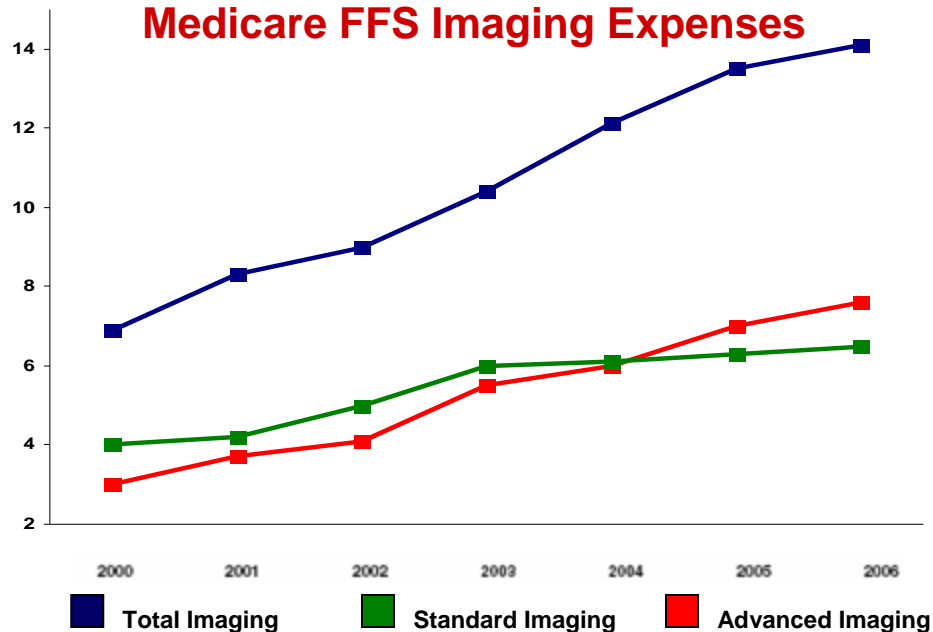
## • Intervention

- Identify patients with greatest opportunity to impact
- Create discharge plan with patient during hospital stay
- Nurses call to schedule and coordinate follow-up care

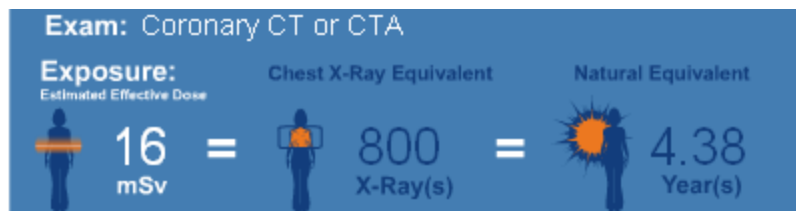


# Advanced Imaging: Increased Utilization, Costs and Safety Risk

## Medicare FFS Imaging Expenses



## Imaging Safety: Coronary CT



- Commercial market average annual growth rate = 15%
- Medicare imaging 2000-2006
  - Costs per Medicare beneficiary increased 52%
  - Advanced imaging grew at twice the rate of standard imaging
  - Average annual growth rate = 13%
- Unnecessary radiology services increase radiation exposure risks
- WellPoint program: imaging trend 0%-5%

# Personalizing Care Management

**Case Mgmt via Web Cam**



**Wireless Biometrics**



**Mobile-to-Mobile  
Video Chat**



**HDTV Case  
Management**

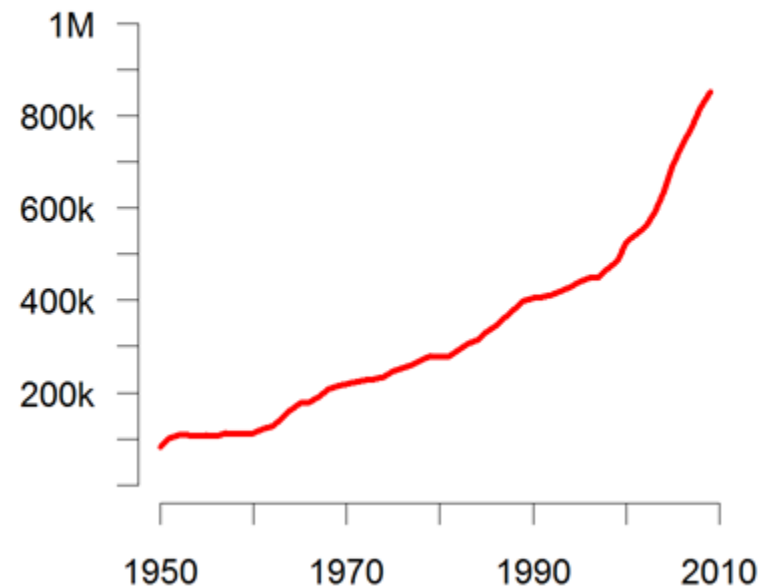
# Potential of Artificial Intelligence

## Artificial Intelligence offers unique value for clinical input

- Ability to manage **large amounts of unstructured data**, even in natural language form (e.g. a normal journal article or an MD clinical summary)
- Influence **evidence-based care** by providing real-time, value-added, actionable insights to clinicians
- Unique **capability to learn**, train, and optimize its own algorithms from historical decisions

- ➔ Probability based diagnosis and treatment recommendations
- ➔ Defined by Evidence Based Medicine
- ➔ Streamlined authorization/approval of procedures and treatment

## MEDLINE-indexed articles published per year



- ➔ Over 21 million articles in Medline
- ➔ Almost 1 million new articles per year
- ➔ 1.6 billion searches in 2010

# IBM Watson has the potential to help doctors make better decisions—faster

## Potential Knowledge Sources May Include:

- Latest medical research
- Population health info
- Patient medical history
- Lab results
- Data analysis
- Complex treatment protocols



Our data  
Extensive  
provider  
networks

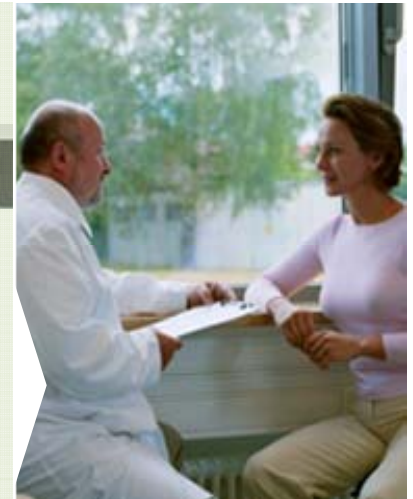


IBM WATSON

Analyzes millions  
of pages/second

Targeted  
treatment options

IBM Watson technology to assist by  
analyzing data and providing responses





## History: Bone Marrow Transplant

- Bone marrow transplantation (BMT) for breast cancer entered medical market in the 1980s before meaningful effectiveness studies were done
- Between 1988-1998, 30,000 procedures and \$5 Billion in medical costs
- Congress and States enacted mandatory coverage legislation in 1994
- 1999 research showed no difference in survival and lower quality of life
- Delayed research and introduction of promising therapies

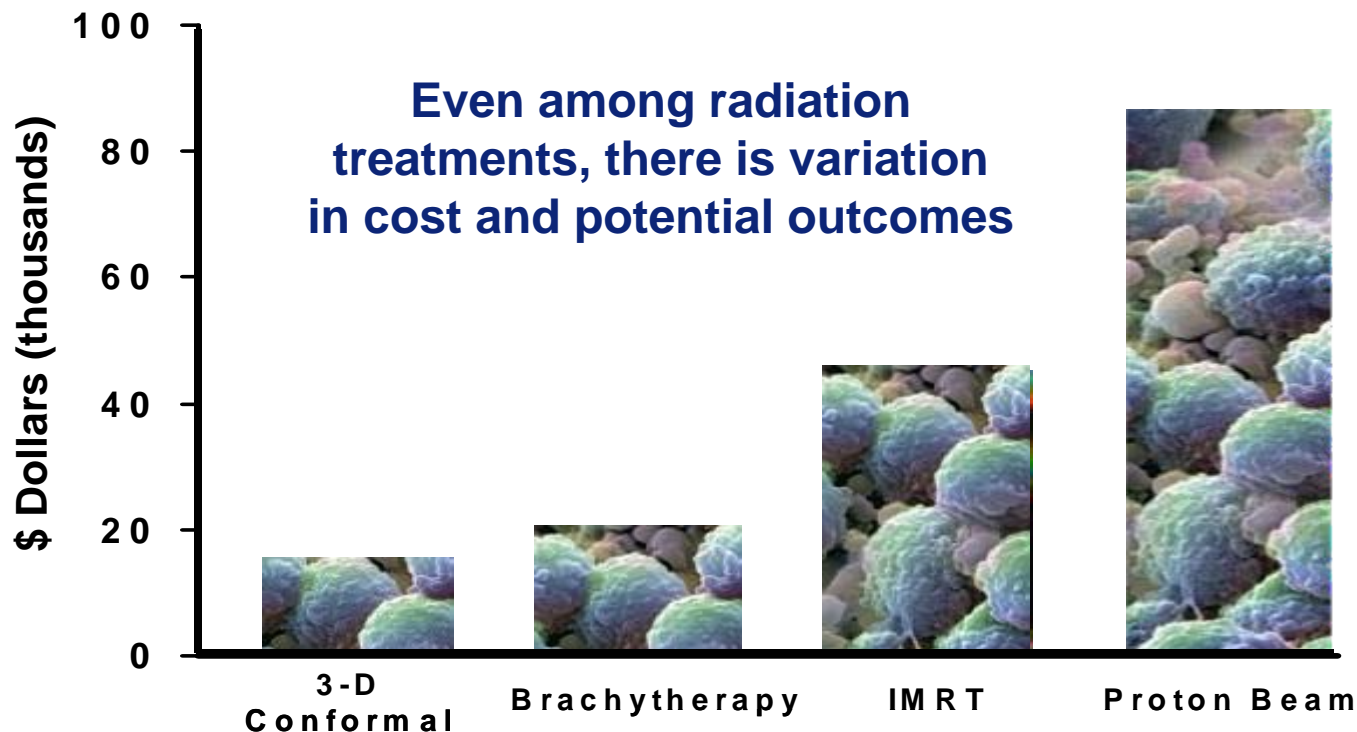
## Today: HER2 Genetic Testing

- 215,000 new breast cancer cases annually; 25-30% of women with breast cancer express the HER2 protein
- Trastuzumab (Herceptin®) is a recombinant DNA monoclonal antibody that targets tumor cells that over express the HER2 protein
- In 2005, two new major clinical trials expanded indications for this biotechnology



# Emerging Medical Technologies and Comparative Effectiveness

## Diagnosis and Treatment of Prostate Cancer is Controversial



Comparative effectiveness can assess outcomes, quality of life, and survival

# Back Pain Treatment Options, Risks, and Benefits

- **Facts on Back Pain**

- 9 of 10 Americans experience back pain
- #1 cause of lost work productivity
- \$90B spent nationally on treatment
- Most pain resolves within 6 weeks independent of treatment

- **Study of 172,000 Anthem Members in 6 States**

- 1,000 surgeries during first 6 weeks
- 35,000 imaging procedures within first 6 weeks
- Care dependent on initial treating physician

- **Value and Benefits**

- Collaboration with American Academy of Family Physicians
- New payment models including bundling of payments
- Educate members/physicians on treatment options



# WellPoint Position: CER Promotes Value and Innovation

**Collaboration amongst health care system stakeholders is central to making CER work**

- **Address unsustainable health care costs**
  - Limited resources threaten innovation
- **Help patients choose more effective treatments**
  - Fewer unnecessary services = health system savings
- **Quality first, then affordability**
  - Superior treatments deserve our nation's investment
  - Comparable treatments should be chosen on value
  - Selectively effective personalized treatments should be managed by physicians and patients
  - Remove inappropriate/ineffective treatments

**SUPERIOR**

**COMPARABLE**

**PERSONALIZED**

**INEFFECTIVE**

Report of: Adam  
Birth Date: February 28, 1946

Member ID : 00123456-01  
Group Number: GRX 123678

## Your Medical & Prescription Claims

Your recent medical and prescription claims as of

May 23, 2008

## Suggestions for You

Suggestions are based on your available claims as of

May 23, 2008

Date	Service/Prescription	Qty	Days	Doctor/Prescriber(*)	Paid(**)
<b>Visits</b>					
05/23/08	Office Visit	--	--	Lynn, Samuel F.	\$85.00
05/17/08	Office Visit	--	--	Wilson, Michelle L.	\$85.00
05/15/08	Office Visit	--	--	Lynn, Samuel F.	\$85.00
04/12/08	Office Visit	--	--	Jones, Terry M.	\$85.00
02/02/08	Office Visit	--	--	Wilson, Michelle L.	\$195.00
<b>Prescriptions</b>					
05/01/08	Metformin - 500 mg	30	30	Jones, Terry M.	\$15.50
03/23/08	Metformin - 500 mg	30	30	Wilson, Michelle L.	\$46.50
02/10/08	Lipitor - 20 mg	30	30	Lynn, Samuel F.	\$85.95
01/18/08	Lipitor - 20 mg	30	30	Lynn, Samuel F.	\$85.95
03/28/08	Accupril - 20 mg	60	30	Lynn, Samuel F.	\$66.99
02/18/08	Accupril - 20 mg	60	30	Lynn, Samuel F.	\$66.99
01/12/08	Accupril - 20 mg	60	30	Lynn, Samuel F.	\$66.99
02/12/08	Nexium - 20 mg	30	30	Lynn, Samuel F.	\$115.60
01/10/08	Nexium - 20 mg	30	30	Lynn, Samuel F.	\$115.60

### Other Medical Services

05/23/08	Cholesterol Panel	--	--	LabCorp Laboratories	\$110.40
04/26/08	Medical Equipment	--	--	Lynnwood Medical Mart	\$198.00
03/28/08	Ambulatory ER Visit	--	--	St. Lucy's Hospital ER	\$766.50
03/28/08	Metabolic Panel	--	--	LabCorp Laboratories	\$110.40
02/04/08	CT X-Ray, Sinuses	--	--	Radiology Assoc. - SFSL	\$854.35
01/15/08	CT X-Ray, Sinuses	--	--	Mercy Hospital - Rad	\$854.35



### Ask your doctor about blood thinner medication [10235] \*

Your medical claims show you have a heart condition called atrial fibrillation, and your prescription claims show you are not taking a blood thinner medication. Atrial fibrillation is an uneven heartbeat that can cause blood clots and strokes. Blood thinners can prevent blood clots and lower your risk of a stroke. Ask your doctor soon if you should take a blood thinner.



### Keep taking Metformin as directed [119] \*

Your prescription claims show you take metformin. Although you recently refilled your prescription, your claims show you are not refilling it as often as you should. This drug can help lower your risk of heart disease, stroke and blindness. If you think your medication is not helping you, or if you are worried about cost or side effects, talk to your doctor soon. Keep taking metformin as directed until you talk to your doctor.



### Save \$396 - Ask your doctor about switching from Accupril [3582] \*


Your prescription claims show you take Accupril. You can save money if you take quinapril, a generic drug that is as safe and effective as Accupril. Ask your doctor if quinapril is right for you.

Drug Name	Your Cost	Your Annual Cost	You Save
Accupril - 20 mg	\$40	\$480	---
Quinapril - 20 mg	\$ 7	\$ 84	\$396

\* Doctor/Prescriber listed may be another name from that medical office/practice.

\*\* This amount is the total paid by you and your health plan.

# Anthem Care Comparison: Cost and Quality Information for Consumers



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## Anthem Care Comparison

We make it convenient to find healthcare providers and facilities that match your particular situation. However, it is important to note that you may need services from a provider such as a radiologist, an anesthesiologist, a pathologist or a neonatologist. Although we make every effort to ensure that these providers are participating providers, not all facilities may require these providers be in our network.

Therefore, please insure your provider is in network prior to receiving care by checking your online provider directory, calling the Customer Service number on your ID card, or by contacting the provider. Should you need the services of an out-of-network provider, you may be subject to balance-billing (charges over and above

**Consumer can see side-by-side comparisons of inpatient and outpatient procedures; diagnostic tests and office visits; and provider service frequency.**


**Cost and Quality Included**

**Find a facility for a procedure or condition...**

Select the type of service you are looking for:  
☒ All Services
☐ Outpatient Services
☐ Inpatient Services

Select a body part or use the menus below to select a Category and a Procedure/Diagnosis:

MALE
FEMALE



**Category:**  
Orthopedic

**Procedure/Diagnosis:**  
Spinal Fusion

**Location (city, state or zip):** Washington, DC
**Within:** 30 miles
[CONTINUE](#)

### Report on Spinal Fusion

This report compares hospitals within 30 miles of Washington, DC for Spinal Fusion, and is based on your selections and rankings. This is just one of several sources you should consult to select a hospital; always consult your physician about what decision is right for you.

Summary
Patients
Mortality
Complications
Length of Stay
Safety
Patient Experience


Overall	Name	Patients/yr	Mortality	Complications	LOS
+	<a href="#">Baltimore Washington Medical Center</a>	○	+	+	+
+	<a href="#">Inova Fair Oaks Hospital</a>	○	+	+	+
+	<a href="#">Anne Arundel Medical Center</a>	+	+	-	+
○	<a href="#">Inova Fairfax Hospital</a>	+	+	-	○
○	<a href="#">Washington Hospital Center</a>	○	+	○	-
○	<a href="#">Georgetown University Hospital</a>	+	+	-	-
-	<a href="#">Virginia Hospital Center - Arlington</a>	○	+	-	○
-	<a href="#">Beaton Hospital Center</a>	+	-	-	○
-	<a href="#">George Washington University Hospital</a>	○	-	○	-

[About the Data](#)
[Print report](#)
[Email report](#)
[Questions To Ask Your Doctor](#)



# Anthem Care Comparison: Variance in Cost for Spinal Fusion

This report compares providers within 5 miles of Washington, DC for **Spinal Fusion (Posterior)**. This is just one of several sources you should consult to select a service provider; always consult your physician about what decision is right for you.

Name	Location	Distance	Typical Cost Low	Typical Cost High	Number of Services/Year	Blue Distinction Center
						
George Wash Univ	900 23rd St NW Washington, DC 20037 202-715-4000	2 mi ( <a href="#">map</a> )	\$41,805	\$47,030	N/A	
Washington Hospital Center	216 Michigan Ave NW Washington, DC 20017 202-877-7000	2 mi ( <a href="#">map</a> )	\$41,805	\$47,030	N/A	
Georgetown Univ	3800 Reservoir Rd NW Washington, DC 20007 202-444-1400	3 mi ( <a href="#">map</a> )	\$62,707	\$67,933	N/A	
Montgomery General Hospital	18101 Prince Philip Dr Olney, MD 20832 301-774-8882	17 mi ( <a href="#">map</a> )	\$38,807	\$43,119	N/A	
Fair Oaks Hospital	3600 Joseph Siewick Dr Fairfax, VA 22033 703-391-3600	19 mi ( <a href="#">map</a> )	\$50,213	\$54,579	143	
Baltimore Washington Medical Center	301 Hospital Dr Glen Burnie, MD 21061 410-787-4000	27 mi ( <a href="#">map</a> )	\$25,921	\$29,624	N/A	
Saint Agnes Hospital	900 Caton Ave Baltimore, MD 21229 410-368-6000	31 mi ( <a href="#">map</a> )	\$47,350	\$51,654	N/A	
Mercy Medical Center Inc	301 Saint Paul St Baltimore, MD 21202 410-332-9000	34 mi ( <a href="#">map</a> )	\$34,436	\$38,741	N/A	
University of Maryland Medical Center	22 S Greene St Baltimore, MD 21201 800-373-4111	34 mi ( <a href="#">map</a> )	\$38,741	\$43,045	N/A	



# National Drug, Vaccine, and Biologic Safety



**34 million members' claims, pharmacy, and laboratory data enables population safety and public health research**

- FDA Vaccine and Biologics Safety Surveillance
- FDA Sentinel Initiative Coordinating Center
- FDA Drug Safety Surveillance
- National Institutes of Health Challenge Grant
- HHS Contract to Monitor National H1N1 Vaccine Safety

# Vast Possibility with Creativity, Passion, and Tenacity

***“Your time is limited, so don't waste it living someone else's life. Don't be trapped by dogma – which is living with the results of other people's thinking. Don't let the noise of others' opinions drown out your own inner voice. And most important, have the courage to follow your heart and intuition.”***

– Steve Jobs

