

# Information Technology in Disease Management

California Health Care Foundation  
November 18, 2004

*Sam Nussbaum*

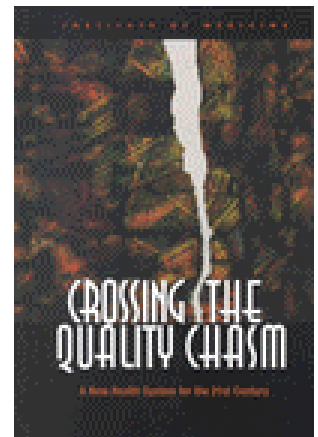
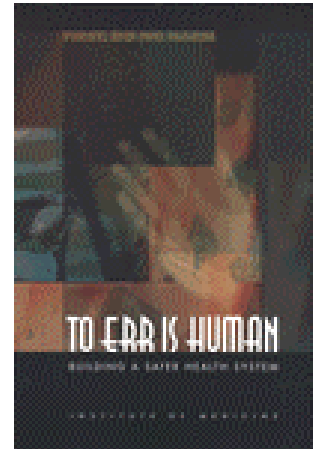
*Executive Vice President and Chief Medical Officer, Anthem*

# Drivers of Health Care Costs

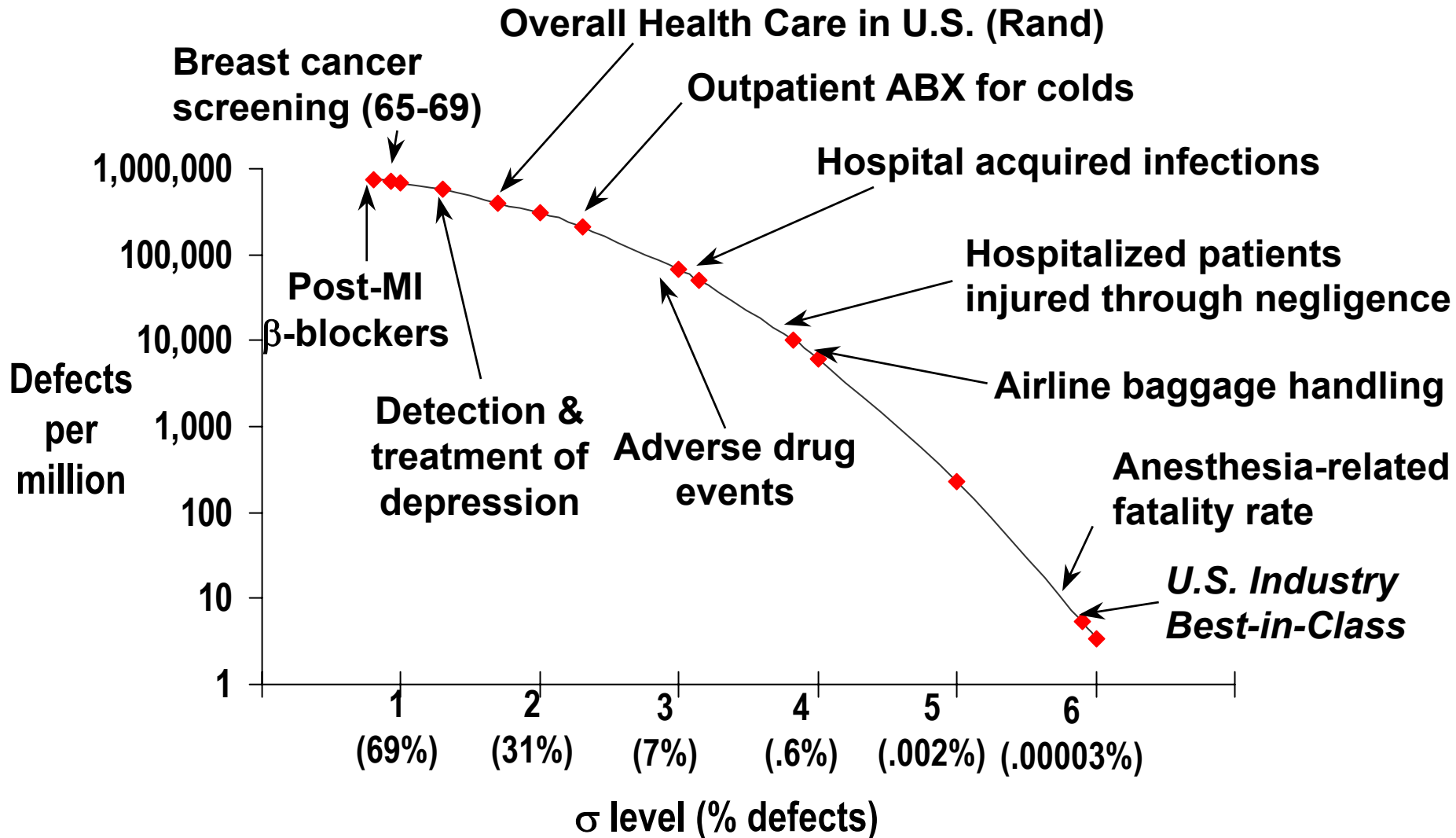
- **Population dynamics: an aging population with chronic diseases**
- **Medical technology and treatment advances**
- **Medical errors; poor quality care**
- **Health professional shortages; medical malpractice litigation**
- **Consumer education, information, navigating the complex system**
- **Unnecessary care; duplication of medical services**
- **Administrative costs: hospitals, insurers, medical practices**
- **Physician and hospital compensation incentives**

# Health Care Quality: The Challenge

- **Institute of Medicine Reports: *To Err is Human* and *Crossing the Quality Chasm*:**
  - Medical errors account for 50,000 - 100,000 deaths each year in hospitals; more than from breast cancer, AIDS or motor vehicle accidents.
  - US health care system does not apply evidenced-based medical knowledge; nor is there a system of care for chronic illness



# Health Care Quality Defect Rates Occur at Alarming Rates



Source: modified from C. Buck, GE

# Vision of the Future of Health Care

## Managing Components of Illness

### Current

- Episode of Care
- Hospital at center of delivery system
- Quality through the eye of the patient and provider viewed as service quality
- Consumer and employer view access and amount of health care as the gold standard

## Managing Overall Health Status and Chronic Illness

### Evolving

- Population health, disease prevention, integrated care for chronic illness
- Pro-active primary care, well integrated with specialty services. Hospitals care for increasingly ill population
- Quality care: improves health and is scientifically based
- Consumer engaged in health promotion and informed decision-making

# **Institute of Medicine: Redesign and Improve Care**

- **Care based on continuous healing relationships**
- **Customization based on patient needs and values**
- **The patient as the source of control**
- **Shared knowledge and the free flow of information**
- **Evidence-based decision-making**
- **Safety as a system property**
- **The need for transparency**
- **Anticipation of needs**
- **Continuous decrease in waste**
- **Cooperation amongst clinicians**

# Ensuring Quality Health Care and Managing Costs: *In Search of the Holy Grail*

1980s

- HMOs
  - Contracting in the setting of excess capacity
  - Aggressive medical management
- 

1990s

- Capitation
  - Physician management companies
  - Vertically integrated health care delivery (and financing) systems
- 

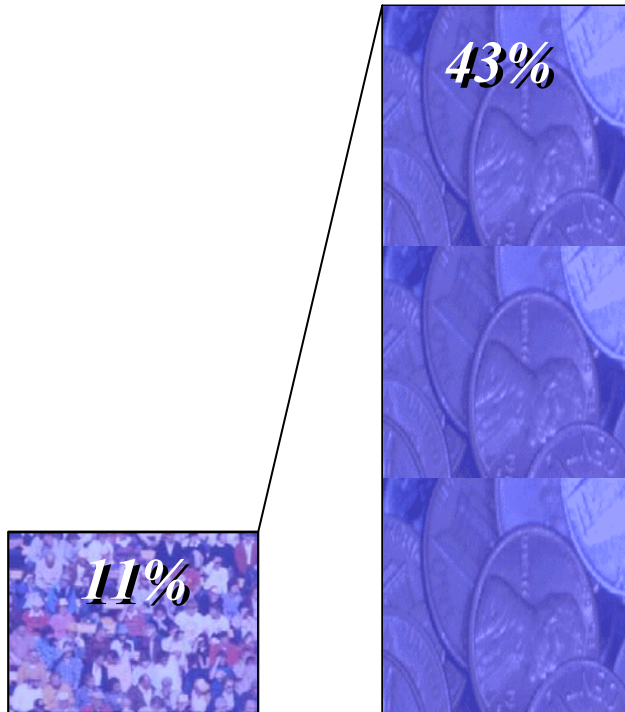
2000s

- “Boutique” delivery models
- Benefit design solutions: most recently health savings accounts, high deductibles; accountability and cost shifting to consumers
- Tiered networks with cost/quality information
- Disease management programs

# Distribution of Medical Expenses: Chronic Disease and High Cost Patients

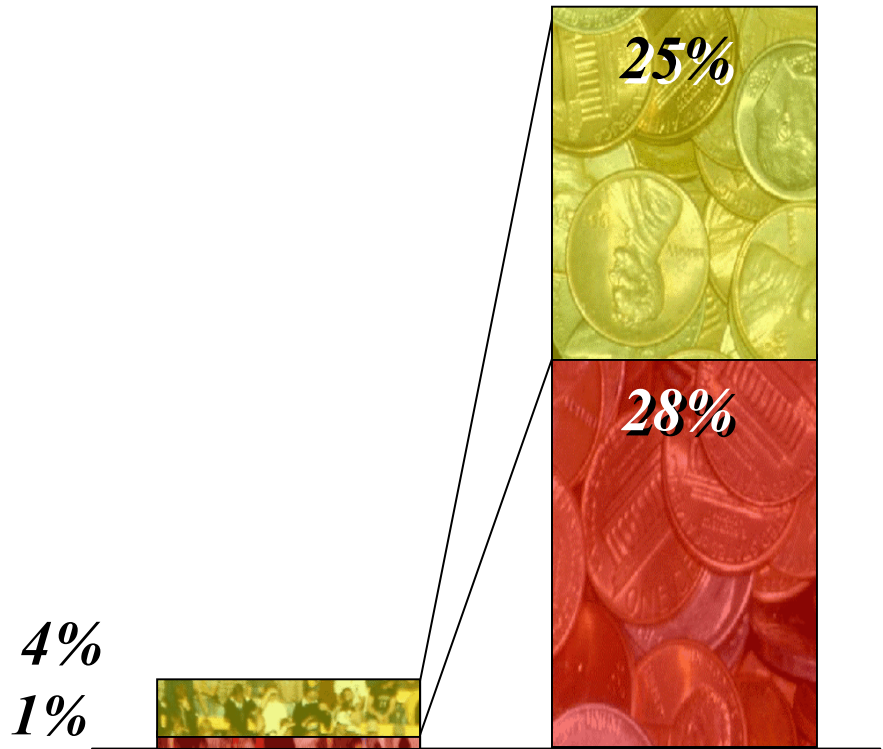
## Diagnosis Driven

Membership      Medical Costs



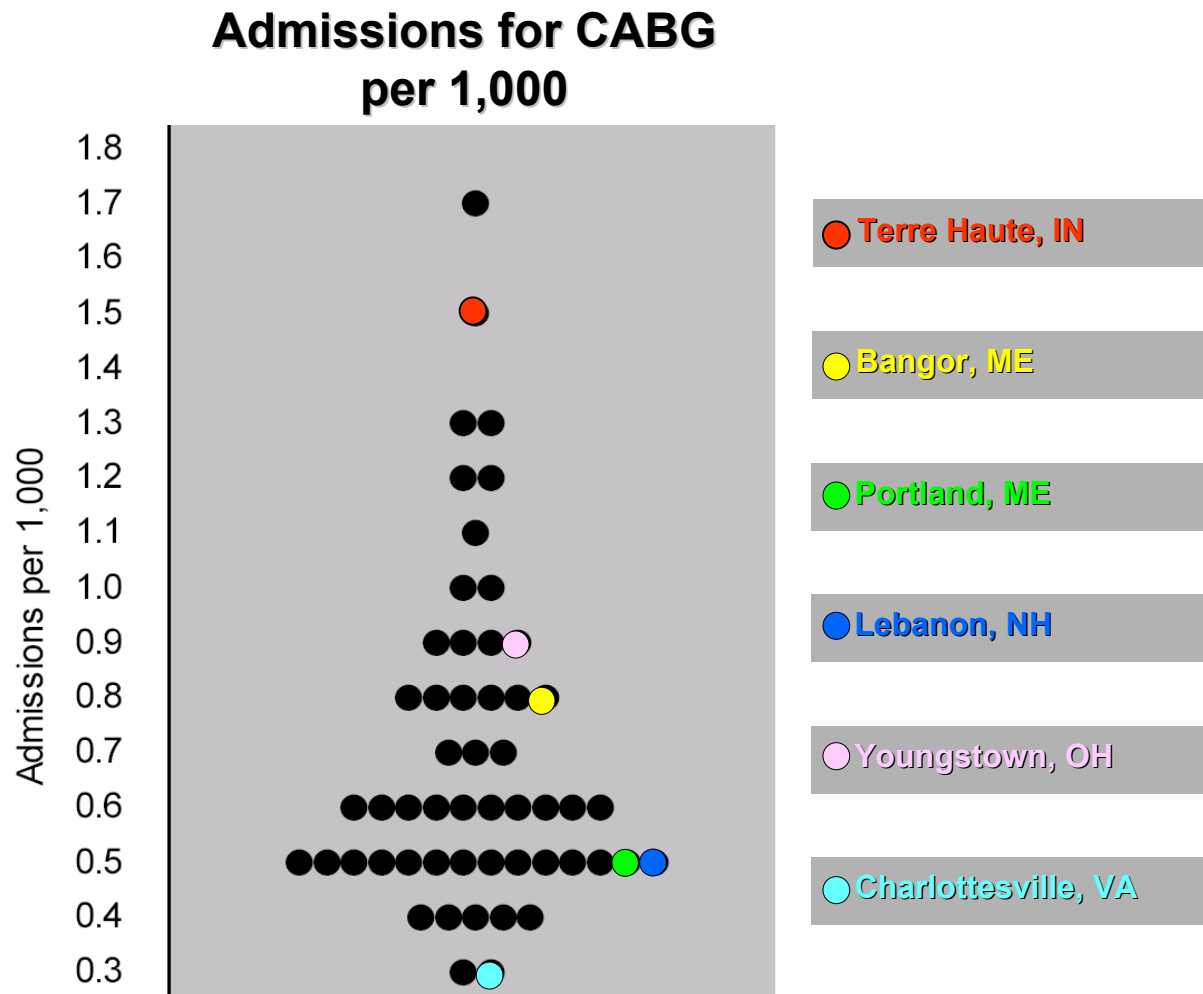
## Cost Driven

Membership      Medical Costs



Chronic diseases include coronary artery disease, asthma/COPD, CHF and diabetes

# Disease Management Addresses Variations



# Disease Management: Definition

- **A multidisciplinary, systematic approach to health care delivery that:**
  - includes all members of a chronic disease population;
  - supports the physician-patient relationship and plan of care;
  - optimizes patient care through prevention, proactive, protocols/ interventions based on professional consensus, demonstrated clinical best practices, or evidence-based interventions; and patient self-management; and
  - continuously evaluates health status and measures outcomes with the goal of improving overall health, thereby enhancing quality of life and lowering the cost of care.

# Current Trends in Disease Management

- **Health care costs driven by advancing technology applied to an aging population with chronic disease**
- **Study designs to demonstrate clinical and cost efficiency**
- **Integration of disease management and care (case) management**
- **Refinement of predictive models**
- **Clinical partnerships with physicians and other health professionals**
- **Application of technology: communication (biosensors) and device technology**

# Current Trends in Disease Management

- **Disease management penetration of Medicare and Medicaid programs**
- **Disease management to address racial and ethnic health disparities; e.g., diabetes in Hispanic populations; hypertension in African-Americans**
- **Expansion beyond traditional diseases**
- **Enhancing consumer engagement, compliance, and persistency**
- **The “glue” for evidence-based clinical care**
- **Payment for disease and care management; reward clinical performance**

# The Promise of Disease Management

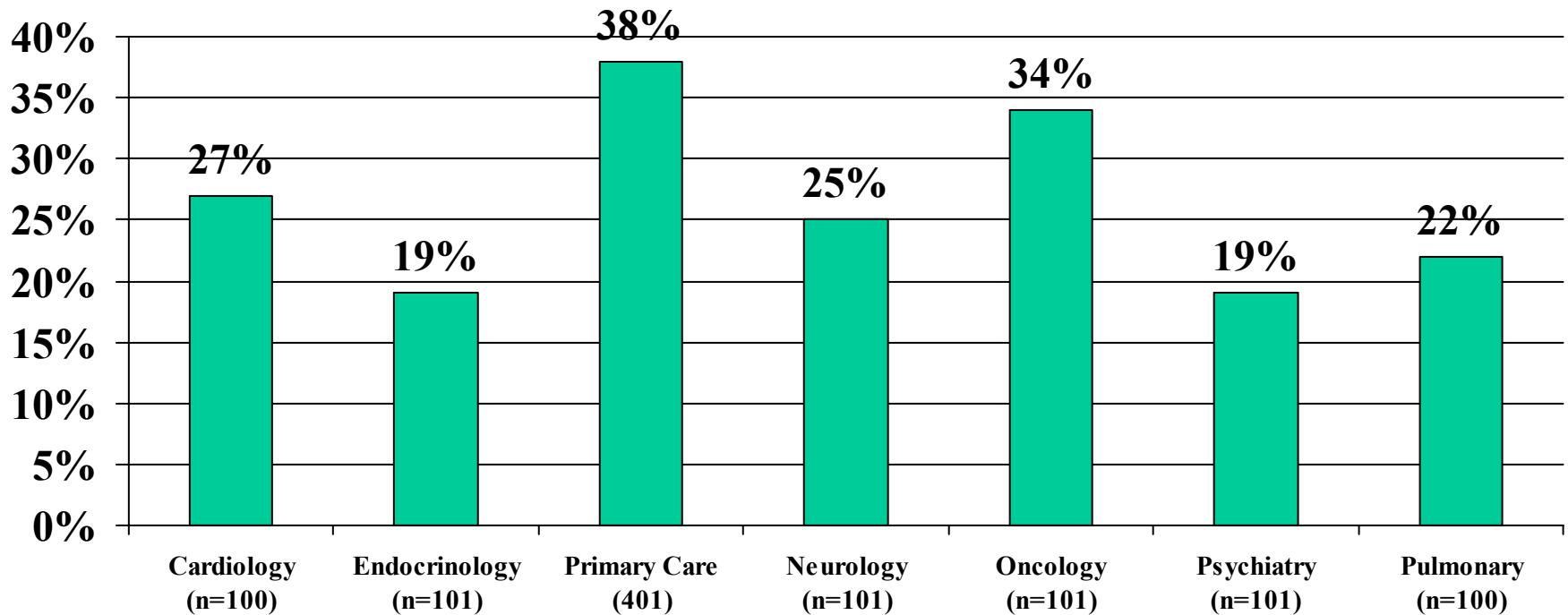
- **Improve not only the quality of health care, but the quality of life**
- **Break the links between age – chronic disease – disability – dependence**
  - **Move back the average age of onset for diseases**
  - **When chronic disease does hit, manage its disabling impacts**
  - **Even after disability sets in, provide technology that reduces its effect on daily living**

*– Michael Barrett, Forrester Research*

# Chronic Care in America: Physician Study

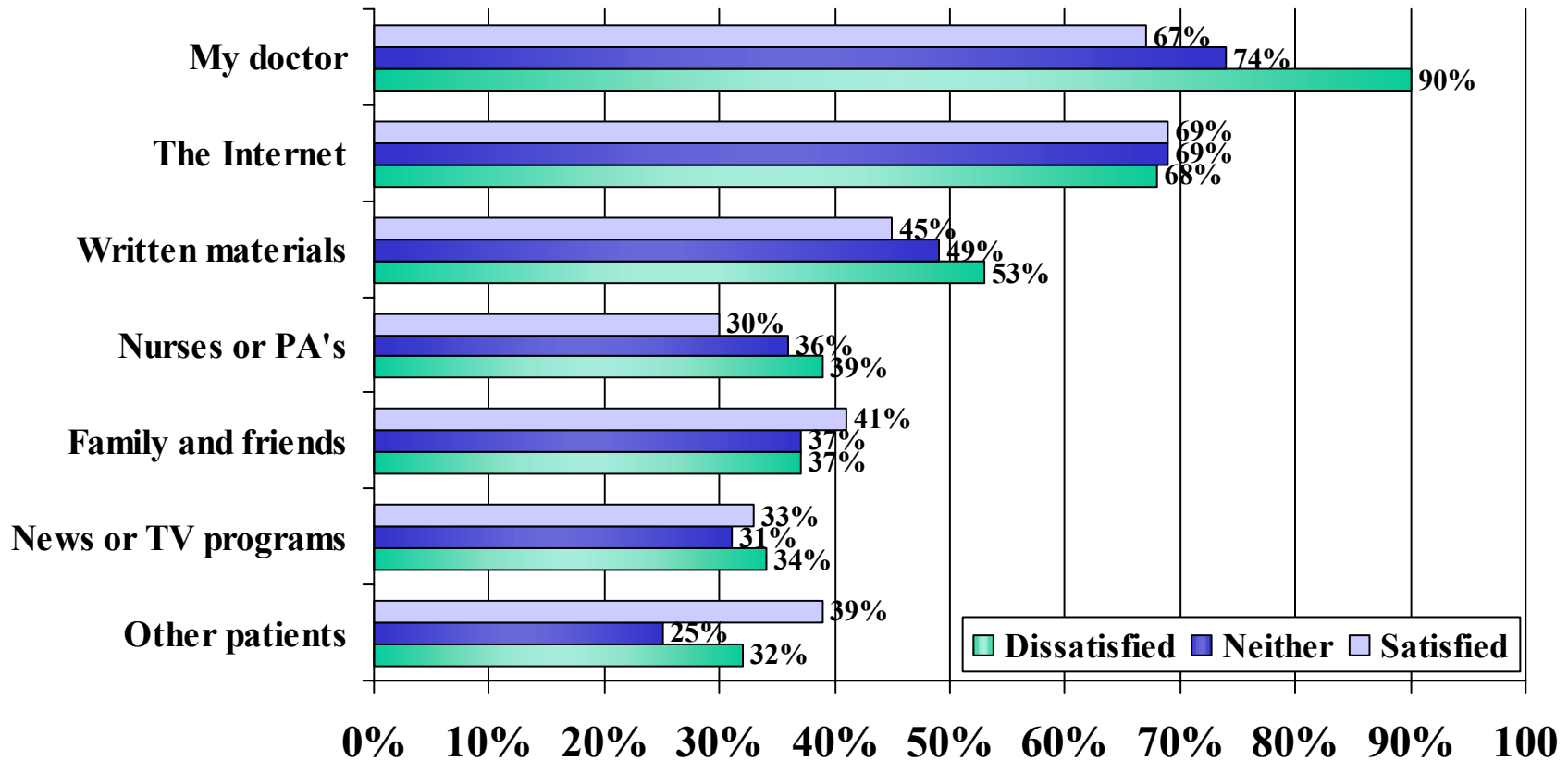
**Physician Q605** When you were in training to become a physician, do you believe that you received enough instruction about caring for patients with chronic illness?

## Percent Answering "Yes"



# Chronic Care in America: Sources for Information and Guidance

When seeking out information to help you with your condition, which of the following sources do you use?



# Medicare Modernization Act

## ➤ Advancements to help ensure that beneficiaries with chronic illness receive supportive care

One Hundred Eighth Congress  
of the  
United States of America

AT THE FIRST SESSION

*Begun and held at the City of Washington on Tuesday,  
the seventh day of January, two thousand and three*

An Act

To amend title XVIII of the Social Security Act to provide for a voluntary program for prescription drug coverage under the Medicare Program, to modernize the Medicare Program, to amend the Internal Revenue Code of 1986 to allow a deduction to individuals for amounts contributed to health savings security accounts and health savings accounts, to provide for the disposition of unused health benefits in cafeteria plans and flexible spending arrangements, and for other purposes.

*Be it enacted by the Senate and House of Representatives of  
the United States of America in Congress assembled,*

SECTION 1. SHORT TITLE; AMENDMENTS TO SOCIAL SECURITY ACT;  
REFERENCES TO BIPA AND SECRETARY; TABLE OF CON-  
TENTS.

(a) SHORT TITLE.—This Act may be cited as the “Medicare  
Prescription Drug, Improvement, and Modernization Act of 2003”.

- Traditional fee-for-service: chronic care improvement program for diabetes and CHF, 10 pilots of 20,000 beneficiaries
- Medicare Advantage: plans must have chronic care improvement programs, as part of their annually-reviewed quality improvement criteria

# CBO Report



CONGRESSIONAL BUDGET OFFICE  
U.S. Congress  
Washington, DC 20515

*Douglas Holtz-Eakin, Director*

October 13, 2004

Honorable Don Nickles  
Chairman  
Committee on the Budget  
United States Senate  
Washington, DC 20510

Dear Mr. Chairman:

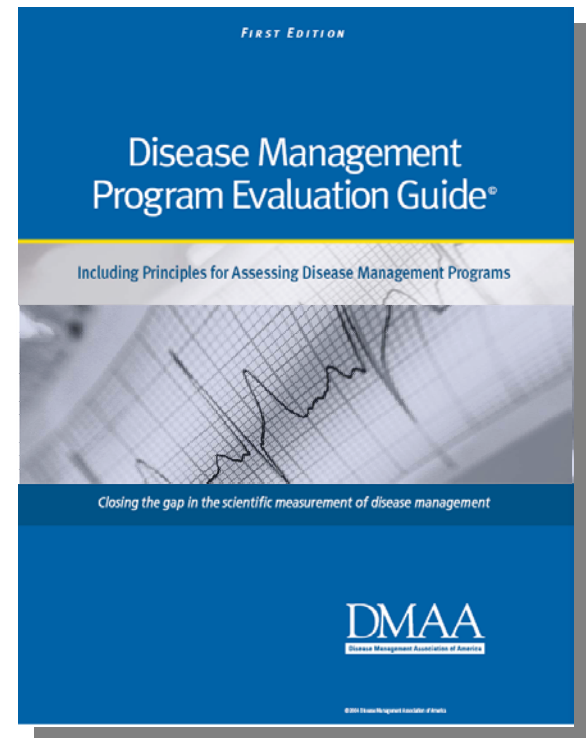
In response to inquiries by you and your staff about whether disease management programs can reduce the overall cost of health care and how such programs might apply to Medicare, the Congressional Budget Office (CBO) has prepared the attached analysis. It examines peer-reviewed studies of disease management programs for specific conditions—congestive heart failure, coronary artery disease, and diabetes (selected in part because they are highly prevalent among Medicare beneficiaries)—and broader reviews of the relevant literature published in major medical journals.

# Disease Management Program Evaluation

## ➤ Aims

- **Raise the bar on DM program outcomes evaluation**
- **Develop principles to guide the DM community**

➤ **DM program evaluation should incorporate rigorous and credible methods and be workable in the real world**



# **Anthem Care Counselor: A Controlled Study of Disease Management**

## **Study 1:**

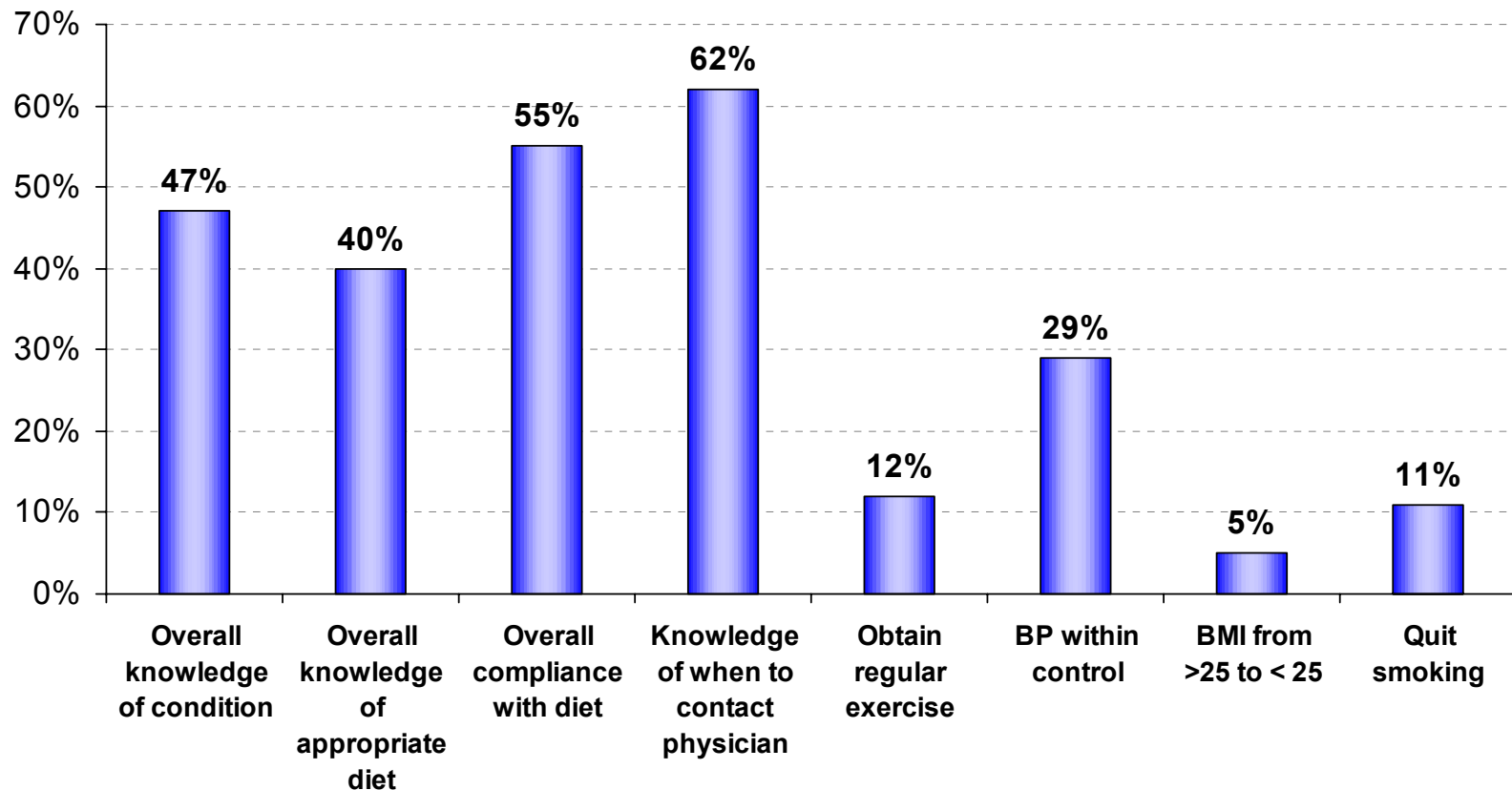
	<b># of Patients</b>	<b>Average Age</b>	<b>Percent of Males/ Females</b>	<b>Average Number of Comorbid Conditions</b>	<b>Cost PMPM</b>	<b>Admits/ 1000</b>
<b>Control Group</b>	<b>756</b>	<b>53</b>	<b>54%/46%</b>	<b>2.00</b>	<b>\$2189</b>	<b>1997</b>
<b>Intervention Group</b>	<b>1154</b>	<b>55</b>	<b>58%/42%</b>	<b>2.04</b>	<b>\$2186</b>	<b>1898</b>

## **Study 2:**

**Control Group 4,134; Intervention Group 7,797**

**Diseases: Stroke, heart failure, diabetes, coronary disease, obstructive lung disease, hypertension, chronic kidney disease, hyperlipidemia**

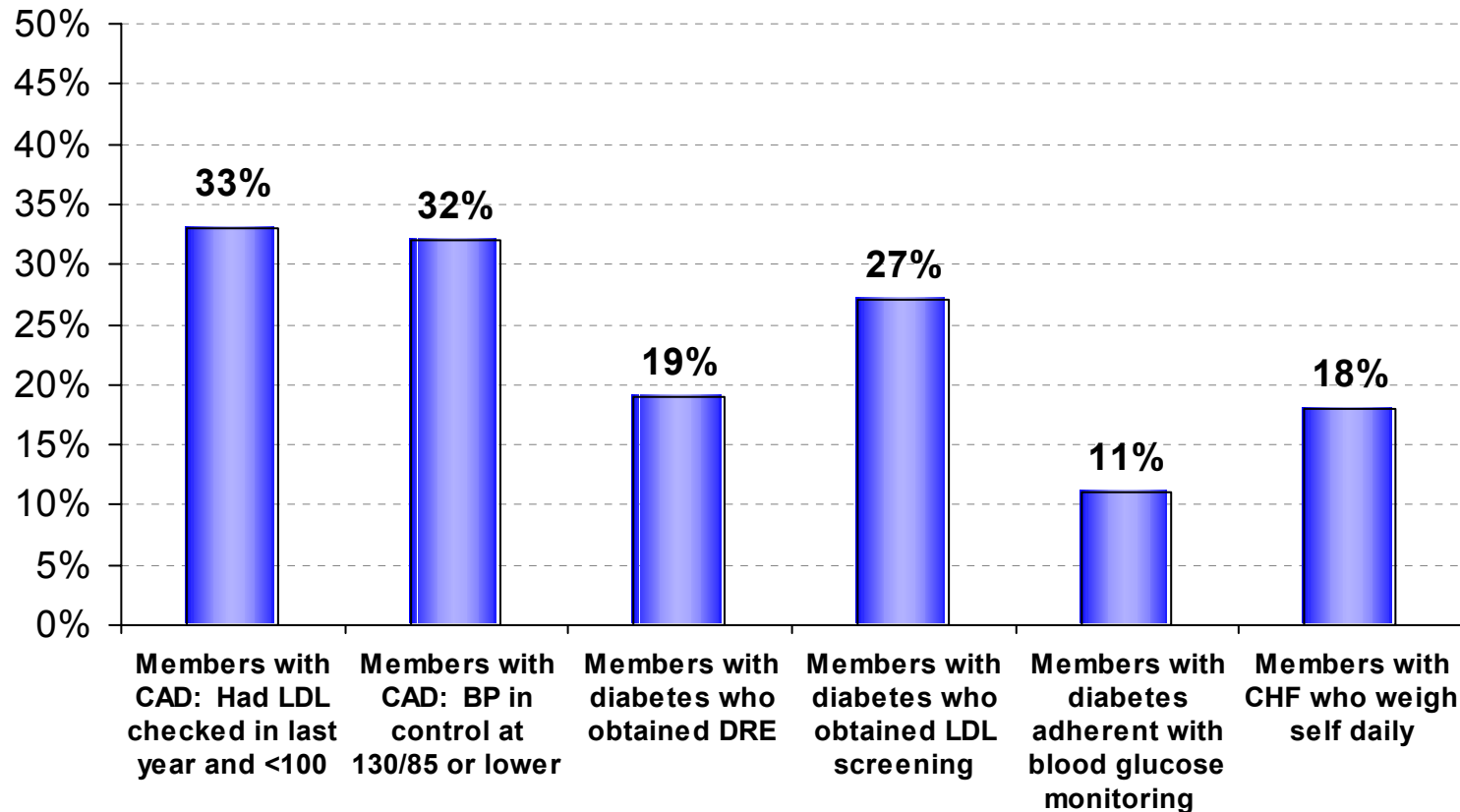
# Percent Improvement on Select Clinical Indicators - Study #2



**“Pre-Intervention” Period**  
11/01/2003—06/30/2003

**“During Intervention” Period**  
07/01/2003—12/31/2003

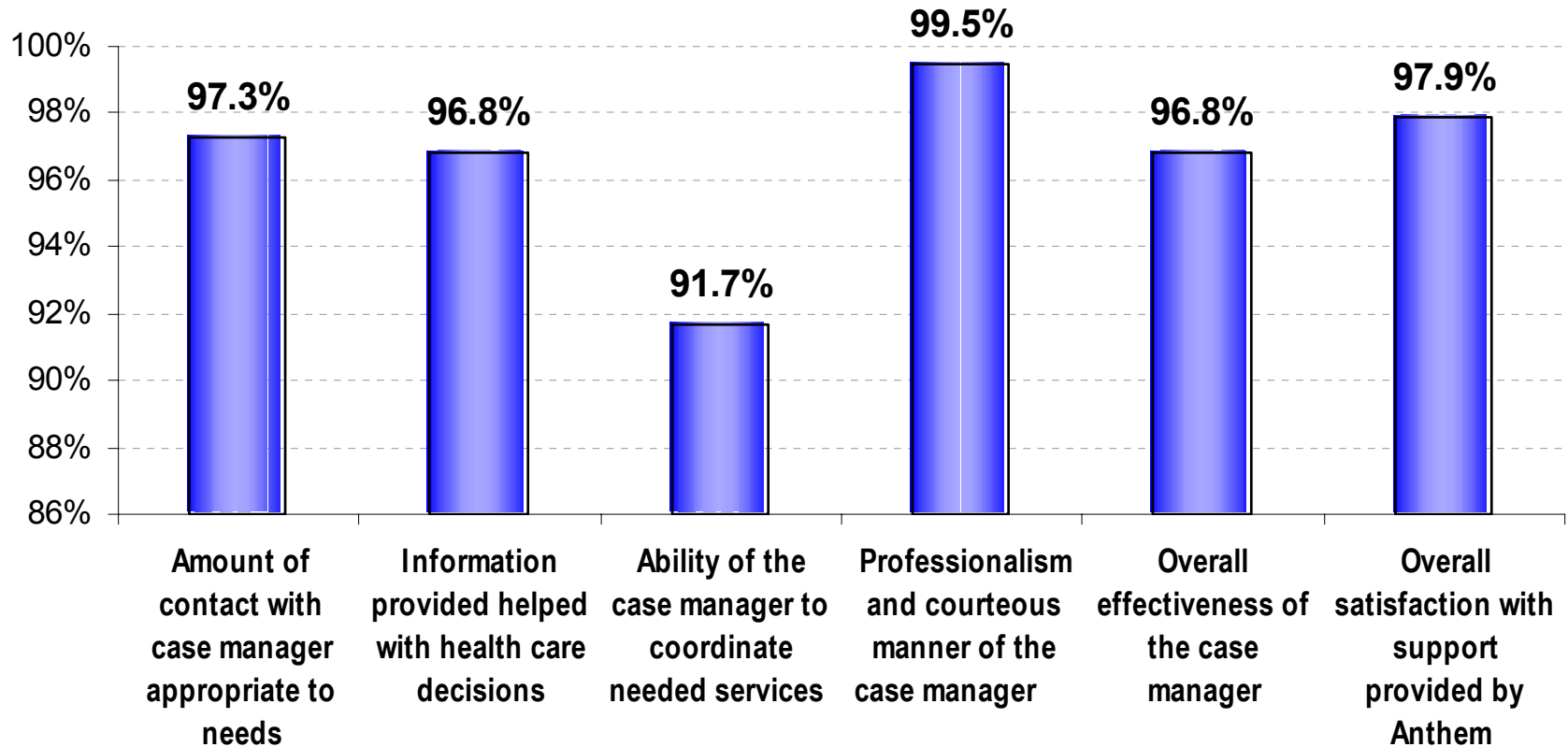
# Percent Improvement on Select Clinical Indicators - Study #2



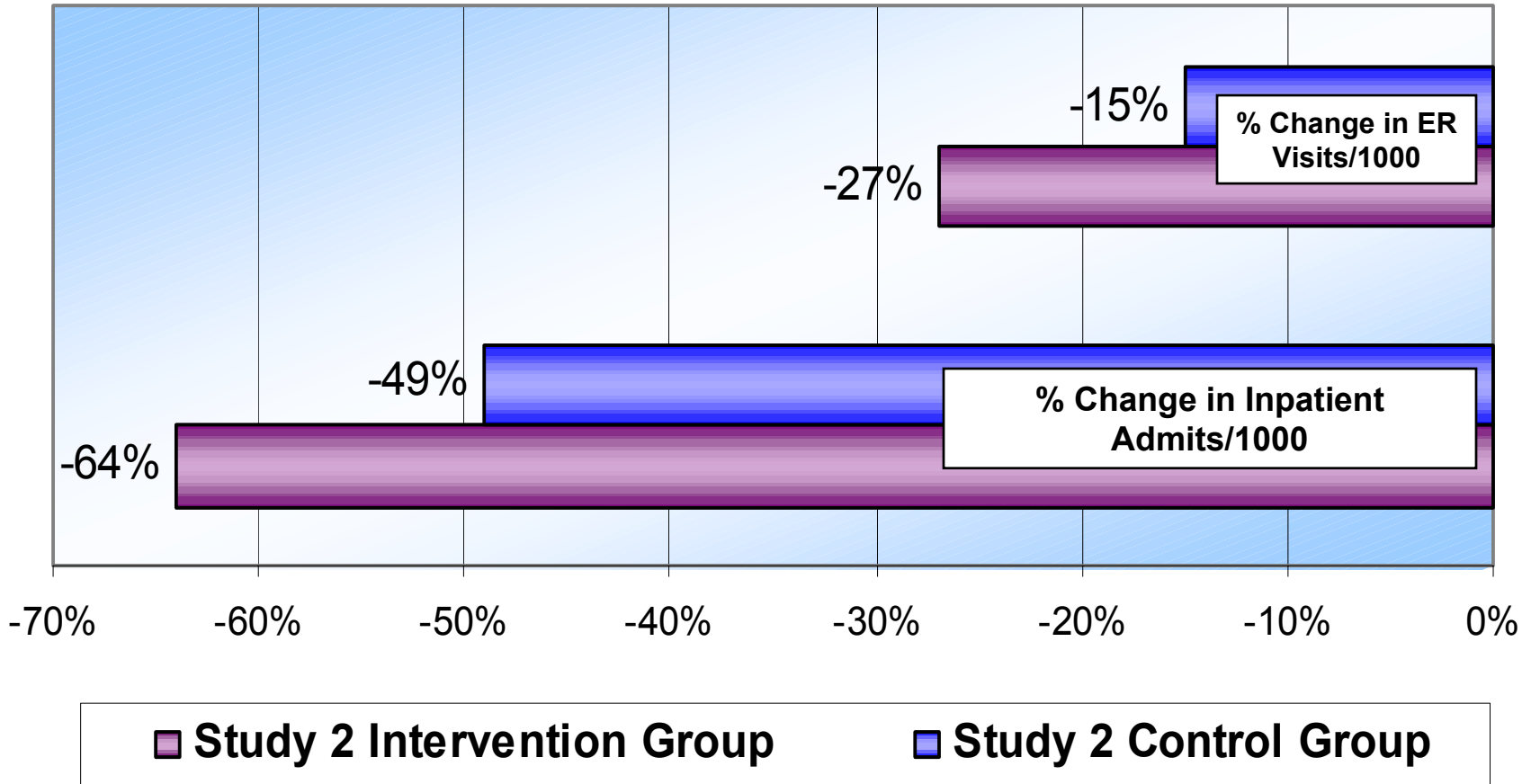
**“Pre-Intervention” Period**  
11/01/2003—06/30/2003

**“During Intervention” Period**  
07/01/2003—12/31/2003

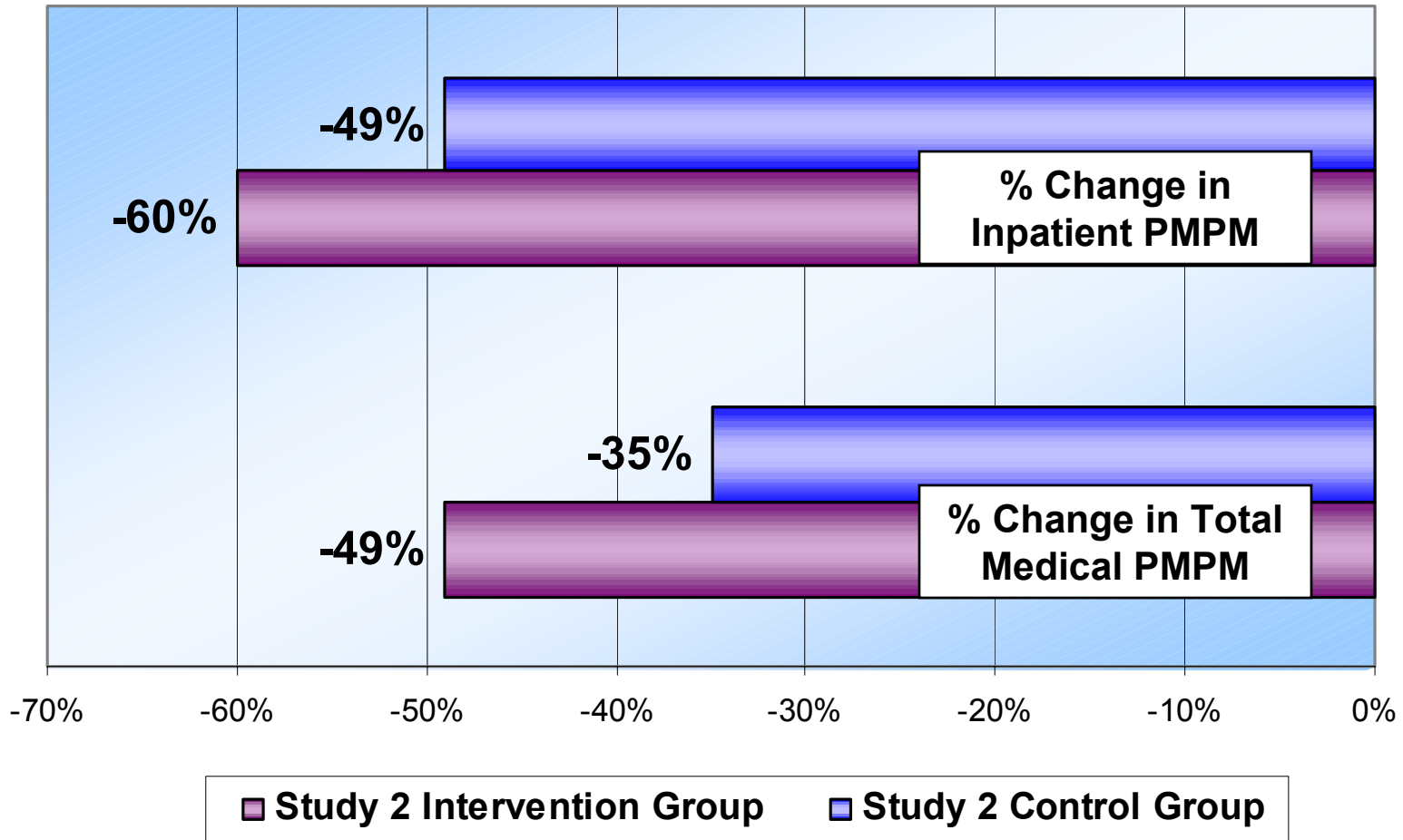
# 97% Overall Member Satisfaction



# Financial Outcomes: Percent Reductions in ER Visits and Inpatient Admits (Study 2)



# Financial Outcomes: Percent Reductions in PMPM Costs (Study 2)



# Percent Change from Pre-Intervention to Post-Intervention for Financial Indicators

	Study 1		Study 2	
	Control Group	Intervention Group	Control Group	Intervention Group
<b>Total PMPM</b>	-38%	-51%	-35%	-49%
<b>Inpatient PMPM</b>	-54%	-64%	-49%	-60%
<b>Inpatient Admits/1000</b>	-56%	-67%	-49%	-64%
<b>ER Visits/1000</b>	-25%	-28%	-15%	-27%

# Health Management Corporation (HMC) PPO Control Group Study

## ➤ Methodology:

- ASO groups who purchased DM (Study group of 76k members) and those who did not (Control)

## ➤ Results:

- Savings of 11% for those enrolled in the program
- Net Savings of \$0.94 PMPM for the entire 76k members
- ROI of \$2.84 : \$1.00

# Predictive Models: A Functional Definition

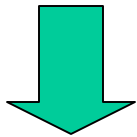
- **Use of analytic and statistical techniques applied to member-specific clinical indicators (such as medical and pharmacy claims data, laboratory values, and other clinical information) to identify members who are most likely to incur high health costs and concomitant deterioration in health.**
- **Models used for underwriting and models used to impact medical management may differ. Correlation coefficients (R-squared and Pearson) may be more valuable for underwriting.**
- **Sensitivity, specificity, and positive predictive impact are essential for medical management.**

# Application of Predictive Models

- **Identifying/managing complexly ill members (hospitalization avoidance)**
- **Refining disease management strategies**
- **Managing pharmacy services (integrated with medical management)**
- **Underwriting more precisely**
- **Reimbursement based on illness burden**
- **Assessing physician management strategies**

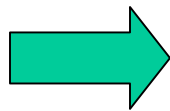
# Predictive Models: A Framework for Success

- **Demographics**
- **Patient Reported Information (HRA)**
- **Medical Claims Data**
- **Pharmacy Claims Data**
- **Laboratory Data**



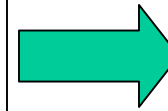
**Model**

- **Regression**
- **Rules-based**
- **Artificial Intelligence**
- **Neural Networks**
- **Combinations**



**Intervention**

- **Target Clinical Situations**



**Quality  
Improvement  
and Financial  
Impact**

# Impactability Factor

- **The “Impactability Factor” is critical to Medical Management. Level of impact varies based on:**
  - Diagnosis: CHF>Leukemia>accidental trauma
  - Psychosocial factors: strength of family and social support
  - Current treatment: evidence-based care vs. opportunity to improve care
  - Contracting issues: high cost pharmaceuticals
  - History of medical site of service; ER>physician office
  - Care process: acute care>rehabilitation>chronic/home care

# Predictive Models: Conclusions

- **There is no clearly superior predictive model for managing care.**
- **Certain approaches may be more valuable for underwriting.**
- **Simple models linked with interventions can advance the quality and efficiency of care.**
- **Most important is an integrated medical management strategy to manage members where intervention has the greatest impact: “Impactability Focus.”**
- **It is improving the care process that has value**

# Informatics

- **Electronic registries**
- **Electronic medical record (EMR)**
- **Electronic messaging**

# Electronic Messaging

- **Diabetes OnTrack Program**  
**Line – 24/7 line that responds to a member's voice and captures daily readings**
- **Immunization reminder programs**

eliza

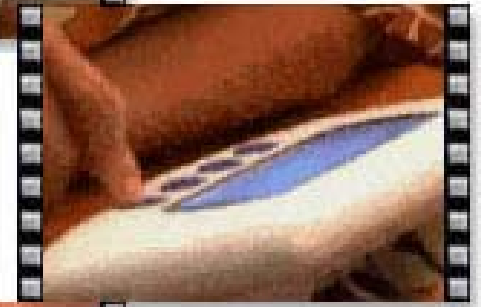


# Potential Impact of E-Disease Management

<b>DM Component</b>	<b>Clinician Participant</b>	<b>Patient Participant</b>
<i>Guidelines/ Protocols</i>	<b>Ease of accessing best practice information</b>	<b>Greater understanding of and collaboration in decisions regarding management</b>
<i>Patient Empowerment</i>	<b>Increased patient compliance and effectiveness in self-management</b>	<b>More relevant information and tools to improve self-management</b>
<i>Outreach/Case Management</i>	<b>Increased knowledge of patient status and earlier intervention</b>	<b>Enhanced communication and support</b>
<i>Performance Feedback</i>	<b>Ease of accessing aggregate and personal performance</b>	<b>Access to practice comparison information</b>

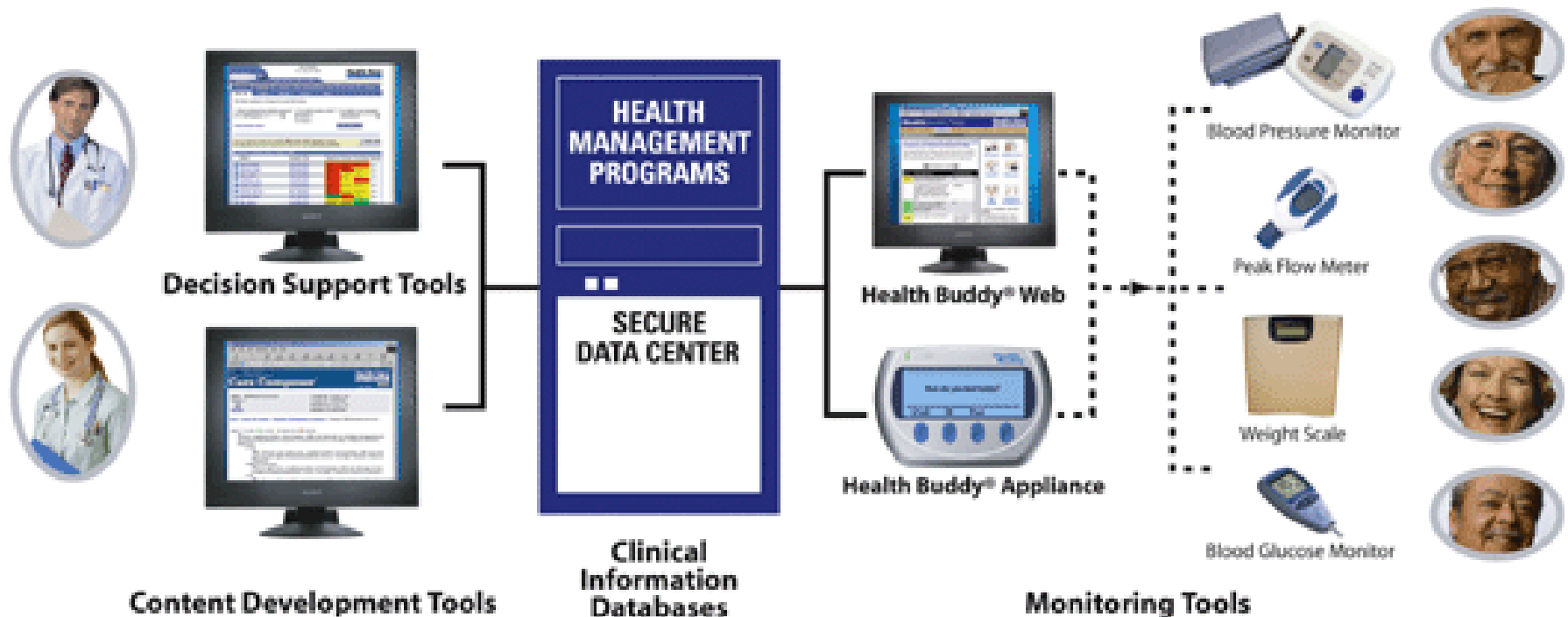
# Bio-sensors

**Moving from  
passive monitoring  
to a closed-loop  
system that  
responds to  
monitoring with  
appropriate  
treatment**



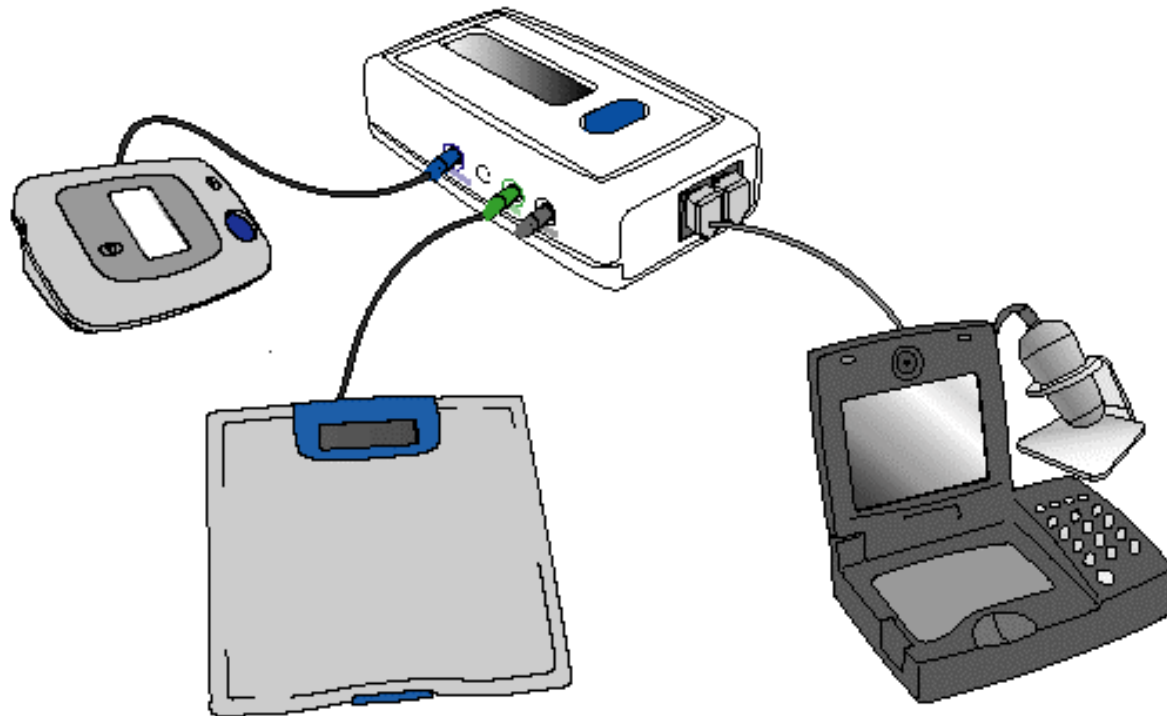
# Health Buddy

## In-home messaging and monitoring



# Cybernet Medical MedStar Kits

**Biometric monitoring technology – in-home care of chronic diseases including CHF, COPD, and diabetes**



# Telemedicine

➤ **MOTOHEALTH**



➤ **Partners Telemedicine Wound Care Management**

➤ **Brigham and Women's Hospital**

# BodyMedia

## HealthWear™ Armband and Weight Center for monitoring calorie balance



# Barriers to IT in Disease Management

## ➤ **Financing**

- **Need to measure impact of DM on cost of care**
- **For physician practices, costs of IT investment vs. benefits**

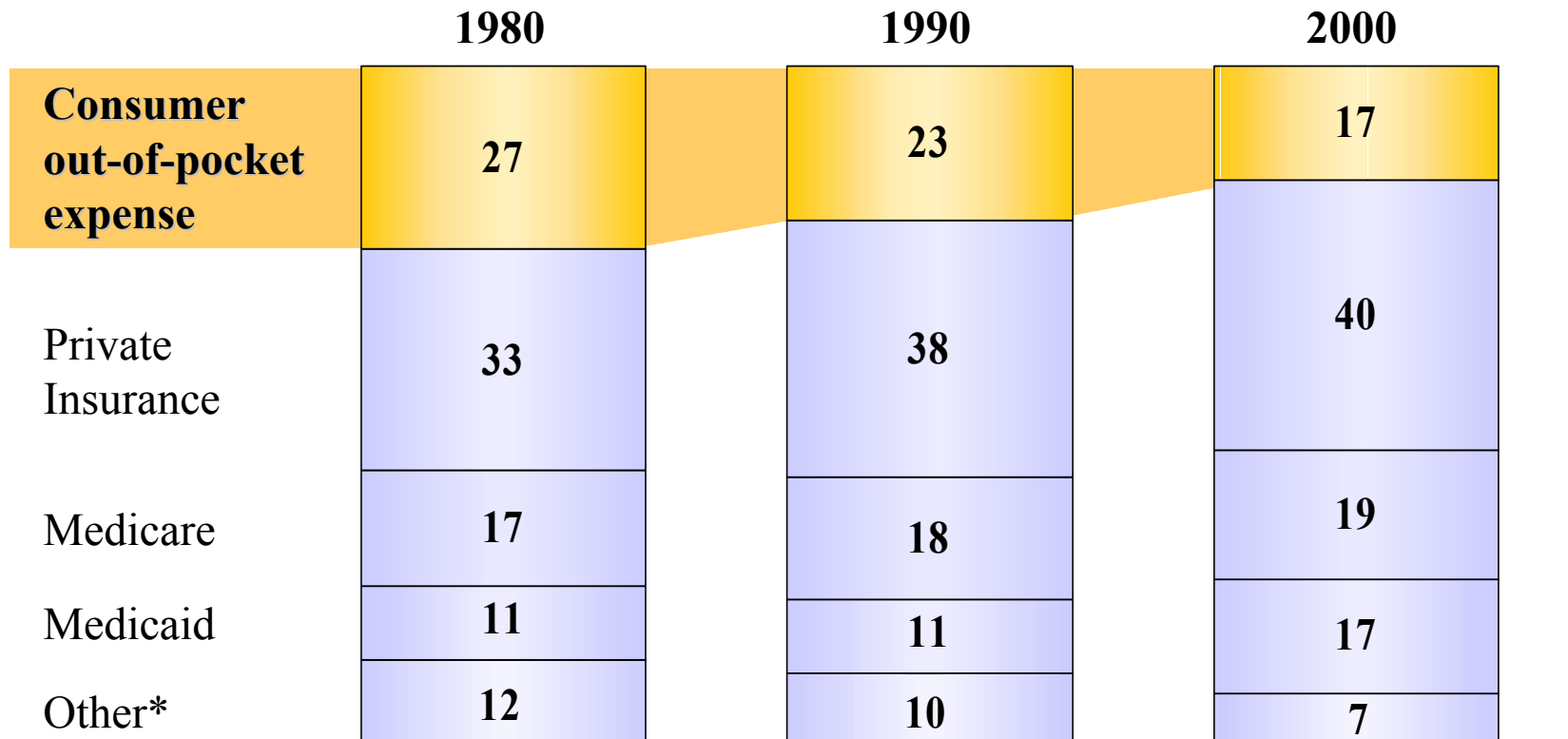
## ➤ **Interoperability/integration**

- **Standards for technology/information**
- **Scale to aggregate data**

# Role of Health Benefits Companies

- **Financial stake in reducing member care costs**
- **Resources to make necessary investments in IT**
- **Broad databases to facilitate population-based chronic disease management**
- **Comprehensive patient information to monitor individual compliance behavior**
- **Ability to implement IT standards across extensive operations**

# The Percentage of the Health Care Bill Paid by Consumers has Declined Over 25 Years



100% (\$ Millions) = \$214

\$609

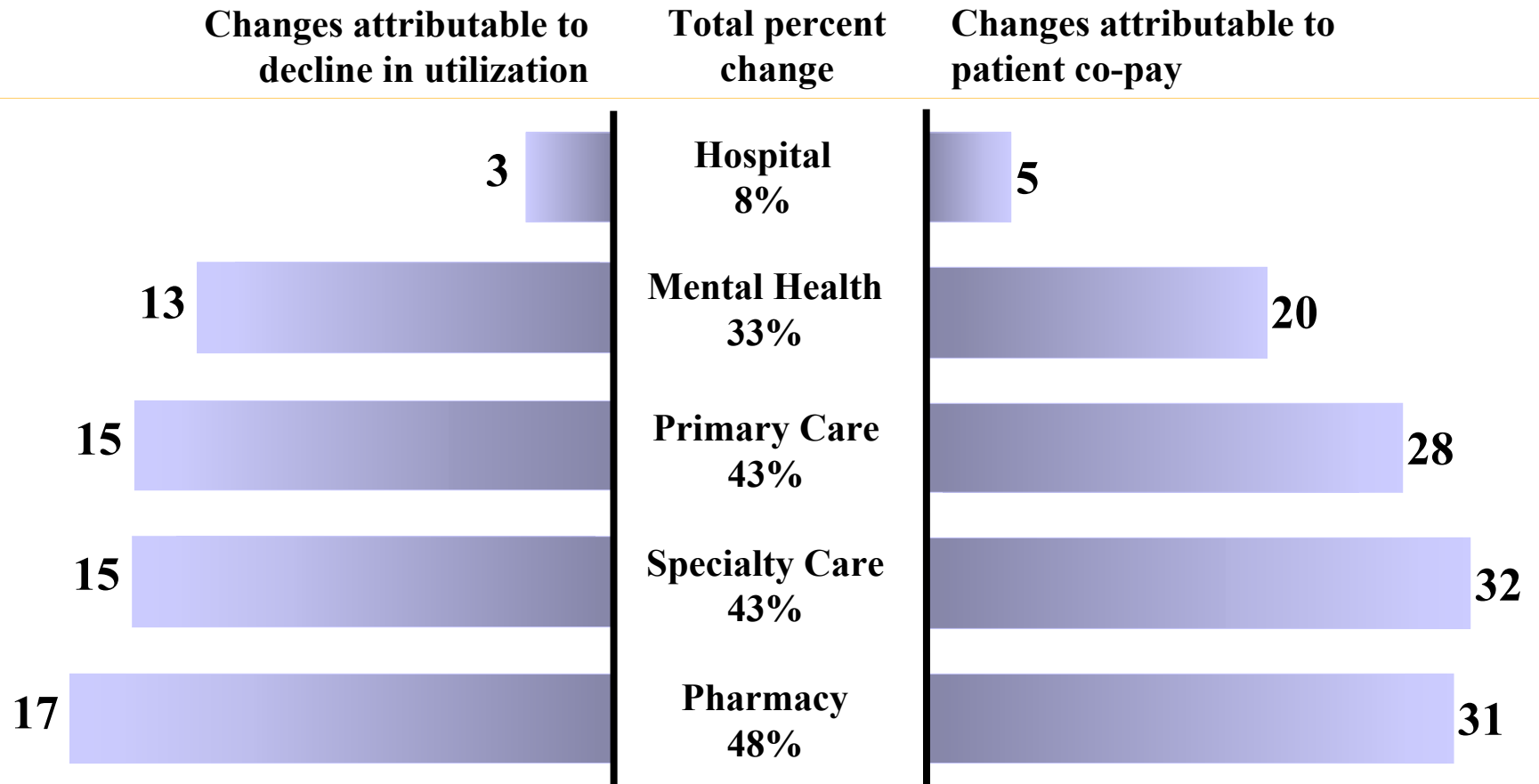
\$1,130

\*Includes VA, DOD, other public assistance

Source CMS

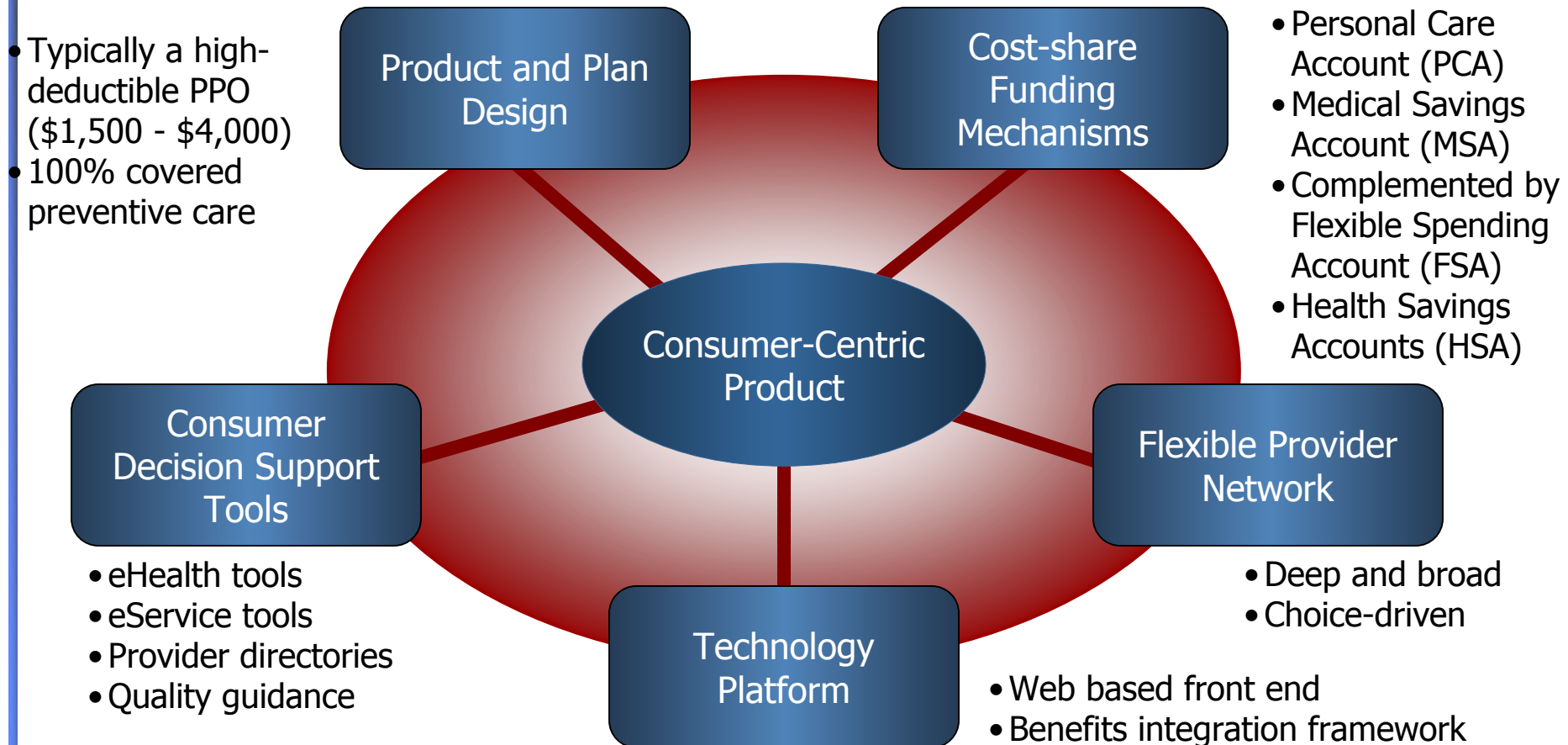
# Costs Decline When Consumers Share Expenses

Changes in medical costs based on changes in consumer co-pay in a loosely managed market\*



\* Utilization comparison based on \$0 co-pay plan vs. co-pays of \$250 IP, \$100 ER, \$20 office visit and \$20 RX

# Elements of Consumer Product Framework



# The Healthcare Advisor: Overview

- Focus on high cost conditions and procedures *after* a patient is diagnosed
- Over 100 conditions and procedures were included.
- Online medical encyclopedia available to cover all conditions, procedures, tests and other medical information.
- Data:
  - All States: Medicare Data
  - 21 States: All Payor (to include Medicare)
- Features:
  - Nationwide Data Set
  - Facility Selection Capabilities
  - Consumer Reputation Information
  - Evidence-based Information

## The Hospital Advisor: Southeast View

The screenshot shows the website interface for 'The Hospital Advisor: Southeast View'. At the top, there is a search bar and navigation links: 'Start | Make a Decision | Resource Center | Logout'. Below the search bar, there are two main tool links: 'Treatment Decision Support Tool' and 'Hospital Quality Comparison Tool'. A 'First Time Visitor?' link with 'Read More...' is also present. The main heading is 'Treatment Decision Support Tool'. Below this, a paragraph explains the tool's purpose: 'Use this interactive tool to make key health care decisions. Start with Get Smart, where you can find out what you need to know about your condition or procedure, or skip ahead to Choose Hospitals here.' A section titled 'Get Smart - Find Out More About Your Condition or Procedure' contains two columns of links. The left column, 'Manage a Condition:', lists links for Asthma, Breast Cancer, Gastroesophageal Reflux Disease (GERD), Hypertension (High Blood Pressure), Type 2 Diabetes, and More Conditions... The right column, 'Prepare for a Procedure:', lists links for C-Section, Coronary Artery Bypass Graft Surgery (Heart Bypass), Discectomy and Laminectomy (Back Surgery), Mastectomy and Breast-Conserving Surgery, and More Procedures... At the bottom of this section, there is a link to view the 'full list' of conditions and procedures. On the right side of the page, there are three additional sections: 'Questions to Ask' with a link to a 'checklist', 'MyHealth@Anthem' with a link to 'more' personalized health info, and 'Online Provider Directory' with a link to 'more' search results.

# The Healthcare Advisor

## Step 1: Select a Condition

- More than 20 conditions and more than 94 procedures
- High cost, high utilization procedures integrated with Leapfrog data.
- Get Smart or Select a Hospital
- Other Tools include:
  - Checklist of Questions to Ask a Provider
  - Medical Encyclopedia
  - Resource Center
  - Treatment Decision Support Tool

[Treatment Decision Support Tool](#) | [Hospital Quality Comparison Tool](#)

First Time Visitor? [Read More...](#)

### Treatment Decision Support Tool

Use this interactive tool to make key health care decisions. Start with [Get Smart](#), where you can find out what you need to know about your condition or procedure, or skip ahead to [Choose Hospitals](#) [here](#).

**Get Smart - Find Out More About Your Condition or Procedure**

<b>Manage a Condition:</b>	<b>Prepare for a Procedure:</b>
<ul style="list-style-type: none"><li>• <a href="#">Asthma</a></li><li>• <a href="#">Breast Cancer</a></li><li>• <a href="#">Gastroesophageal Reflux Disease (GERD)</a></li><li>• <a href="#">Hypertension (High Blood Pressure)</a></li><li>• <a href="#">Type 2 Diabetes</a></li><li>• <a href="#">More Conditions...</a></li></ul>	<ul style="list-style-type: none"><li>• <a href="#">C-Section</a></li><li>• <a href="#">Coronary Artery Bypass Graft Surgery (Heart Bypass)</a></li><li>• <a href="#">Discectomy and Laminectomy (Back Surgery)</a></li></ul>

Didn't find what you're and procedure decisions.

## Hospital Quality Comparison Tool

### Choose Hospitals Best for You

Find hospitals based on factors important to you, including experience with the type of treatment you need.

Having a Common Surgery? Start Here:

----- SELECT A PROCEDURE -----

Interested in Other Surgeries or Types of Care? Start Here:

----- SELECT A TYPE OF CARE -----

See more [detailed explanations](#) of Types of Care or find out which [Types of Care](#) might be important to you.

# The Healthcare Advisor

## Step 3: Weight Important Factors

- Consumers rate which factors are important.
- Modify the relative weights based on what's most important to them.
- There are default settings for factors, including both whether or not the factors are selected and their importance weights.
- The default settings vary by Subimo Procedure and were determined by the Medical Advisory Panel.

Search for hospitals within a distance of:  Zip Code:

Include children's hospitals

*A hospital's performance on any of the factors you see here is not a guarantee of a good or bad outcome for you. We encourage you to consider multiple factors when choosing a hospital for care. And, we encourage you to seek out additional sources of information in your decision-making process, including talking to your physician and contacting hospitals directly. In addition to hospital information, you should understand your physician's experience.*

Select Factors Important to You	Not Selected	How Important? (Low-Med-High)
<b>Hospital Clinical Quality and Experience</b>		
<a href="#">Treated more patients</a>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>
<a href="#">Had fewer patients with complications</a>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>
<a href="#">Had fewer patients with infections</a>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>
<b>Hospital Reputation</b>		
<a href="#">Public perception</a>	<input checked="" type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
<a href="#">Is an accredited (certified) facility</a>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>
<b>Hospital Characteristics</b>		
<a href="#">Is a teaching hospital</a>	<input type="radio"/>	<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/>
<a href="#">Primarily treats children</a>	<input checked="" type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
<a href="#">Has many high technology services</a>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>
<a href="#">Has an intensive care unit (ICU)</a>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>
<a href="#">Has a critical care unit for heart problems (CICU)</a>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>

[ [Reset Factors to Defaults](#) ]

# The Healthcare Advisor

## Step 4: Choose Hospitals to Compare

- Determine which hospitals most closely match selected preferences.
- Filter out non-par hospitals or flag network hospitals.
- A total hospital score is calculated for all of the consumer's preferences using the worst scores in the database, these summed to create a worst total hospital score.

### Hospital Quality Comparison Tool

#### Choose Care: Hospitals for Coronary Artery Bypass Graft Surgery (Heart Bypass) - Best Matches

Here are hospitals that [best match](#) the factors you said were important to you. Please note that a score of 100 does not necessarily mean the hospital matched all of your selected factors, or matched them well; this means it was the closest fit available within your search area. Feel free to [revise your selections](#). The match and the hospitals you see could change if you change your search area.

Only information on hospitals in the state of Virginia will be displayed.

**More Information:** Click on a hospital's name to see more information about that hospital and its experience with your procedure or type of care.

Check the box of up to 3 hospitals to compare detailed information.

Compare Selected

#### Best Match(es) (Closest Fit) Within Your Search Area (200 Miles from ZIP 23228)

<input type="checkbox"/>	<a href="#">WINCHESTER MEDICAL CENTER</a>	Match: 100
	1840 AMHERST ST, WINCHESTER VA 22601	Distance: 115 mile(s)
		Network: PAR/PPO

#### Next Best Match(es) Within Your Search Area (200 Miles from ZIP 23228)

<input type="checkbox"/>	<a href="#">INOVA FAIRFAX HOSPITAL</a>	Match: 90
	3300 GALLOWES RD, FALLS CHURCH VA 22042	Distance: 87 mile(s)
		Network: HMO PAR/PPO
<input type="checkbox"/>	<a href="#">UNIVERSITY OF VIRGINIA HEALTH SYSTEM</a>	Match: 88
	JEFFERSON PARK AVE, CHARLOTTESVILLE VA 22908	Distance: 62 mile(s)
		Network: PAR/PPO

### Make a Decision

Use this decision process to help you prepare for this procedure:

1. [Get Smart](#) - background information and data
2. [Choose Care](#) - find the best hospitals for you
3. [Research Further](#) - resource center

**Important:** Our approach is to find the [best matches](#) for you based on the factors you said were important. We encourage you, as always, to consult with a physician and contact the hospital directly.

For certain procedures or types of care (example: [childbirth-related](#)), you will see little or no clinical data (examples: volume, complication rates) for hospitals in states that have data only on patients over age 65. In such cases, you may wish to focus on non-clinical selection factors and you should contact hospitals

# The Healthcare Advisor

## Step 5: Side-by-Side Comparison

- Basic Information
- Hospital Clinical Experience and Outcomes
- Overall Patient Safety Standards
- Hospital Reputation
- Hospital Characteristics
- Additional Information
  - Network Affiliation Indicators
  - Market-Specific Data
  - Hospital Supplied Comments

### Hospital Quality Comparison Tool

#### Choose Care: Hospitals for Coronary Artery Bypass Graft Surgery (Heart Bypass) - Hospital Profile

Here is detailed information for the hospitals you selected. Click on factor names for more detailed explanations of the factors and why they might be important to consider.

[Learn more about the data](#) behind this report and how it was used, and refer to the [notes](#) at the bottom of this page for additional information to help you interpret the results. If appropriate, you will also see information on Related Procedures, to give you a more complete picture of the hospital's experience. You can also [choose different hospitals](#) to compare or [change your factor selections](#). Only information on hospitals in the state of Virginia will be displayed.

A hospital's performance on any of the factors you see here is not a guarantee of a good or bad outcome for you. We encourage you to consider multiple factors when choosing a hospital, including talking to your physician. You should understand your physician's experience.

WINCHESTER MEDICAL CENTER  
18 W...  
Phor...  
www...  
Distance from ZIP 23228  
Network:

Hospital Clinical Experience and Outcomes for Selected Procedure			
	WINCHESTER MEDICAL CENTER	IIIOVA FAIRFAX HOSPITAL	UNIVERSITY OF VIRGINIA HEALTH SYSTEM
<b>Coronary Artery Bypass Graft Surgery (Heart Bypass): Inpatient</b>			
<a href="#">Patients Treated in One Year</a>	510	1151	432
<a href="#">Severely Ill Patients Treated in One Year</a>	370	891	314
<a href="#">Complication Rate</a>	Better than Expected	As Expected	As Expected <a href="#">[See Discussion]</a>
<a href="#">Post-Operative Infection Rate</a>	Better than Expected	As Expected	As Expected <a href="#">[See Discussion]</a>
<a href="#">Mortality Rate</a>	As Expected	As Expected	As Expected <a href="#">[See Discussion]</a>
<a href="#">Patient Safety Standard for Procedure Experience</a>	Meets Standard	Data Not Available	Data Not Available
<b>Hospital Overall Patient Safety Standards</b>			
	WINCHESTER MEDICAL CENTER	IIIOVA FAIRFAX HOSPITAL	UNIVERSITY OF VIRGINIA HEALTH SYSTEM
<a href="#">Computerized Physician Order Entry</a>	Does Not Meet Standard	Data Not Available	Data Not Available
<a href="#">Intensive Care Unit Physician Staffing</a>	Does Not Meet Standard	Data Not Available	Data Not Available
<b>Hospital Reputation</b>			
	WINCHESTER MEDICAL CENTER	IIIOVA FAIRFAX HOSPITAL	UNIVERSITY OF VIRGINIA HEALTH SYSTEM
<a href="#">Public Perception for Heart Care</a>	Survey Not Conducted in Area	Best in Washington	Survey Not Conducted in Area
<a href="#">JCAHO Accreditation</a>	Yes	Yes	Yes

# Consumer Driven Health Care

## Happy Economist Scenario

*Engaged and well-informed consumers . . .*

- Allocating coverage dollars wisely
- Making rational treatment and provider decisions
- Using reliable and easily understood quality metrics
- Trading up to better treatments when value is demonstrated
- Complying with treatments
- Satisfied with their care

## Ugly Reality

*Engaged but often ill-informed consumers . . .*

- Experiencing cost shifting
- Making decisions without good information
- Making emotional -- rather than ration -- decisions
- Spending money unwisely (e.g., total body scans)
- Trading down more often than trading up
- Not complying
- Angry and feeling deprived

*Source: Ian Morrison*

# Medical Management: A Changing Landscape

## Traditional:

*precertification, referral authorization, utilization review*

- **Hospital Utilization** - manage hospital utilization through appropriateness of admission and length of stay
- **Focus** - one size fits all utilization
- **Clinical Management** - wide variation in regional clinical practice pattern
- **Financials**: ROI minimal
- **Members**: view as barriers to care
- **Physicians**: consider these approaches administrative hassles that increase office costs and personal intervention
- **“Partnership:”** Approaches add cost and create dynamic tension

## Progressive:

*Disease management, advanced care management*

- **Manage hospital admissions by preventing deterioration in health status**
- **Targeted at high-impact members**
- **Evidence-based care models: more consistent approaches to care**
- **ROI analyses show promising early results**
- **View care navigation positively**
- **Viewed as promoting the delivery of quality care and helping them manage challenging patients**
- **Models are collaborative**

# Why is Disease Management a Major Player Today?

- **Disease Management programs fill a gap in our healthcare system**
  - **Provides patients with chronic conditions support for self-care**
  - **Drives evidence-based medicine**
  - **Maximizes patient functionality**
  - **Minimizes long-term complications, acute deterioration in health**
  - **Improves the efficiency and cost effectiveness of patient care delivery.**

# The Ultimate Challenge

**The ultimate challenge of disease management is behavior change**

- **On the part of patients but also on the part of all of us who serve them**
- **A real benefit of the new model of health care is that it is patient centered – empowers patients to act in their own best interests**
- **We should assess technology in DM on how it advances and supports patients in working with health care professionals to improve their own health**

# Our Challenge and Our Opportunity

*“The American health care delivery system is in need of fundamental change. The current care systems cannot do the job. Trying harder will not work. Changing systems of care will.”*

**- Institute of Medicine**