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
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

- Breast cancer screening (65-69)
- Outpatient ABX for colds
- Hospital acquired infections
- Hospitalized patients injured through negligence
- Airline baggage handling
- Anesthesia-related fatality rate
- Adverse drug events
- Detection & treatment of depression
- Post-MI β-blockers

Overall Health Care in U.S. (Rand)

Defects per million:

- 1,000,000
- 100,000
- 10,000
- 1,000
- 100
- 10
- 1

σ level (% defects):

- 1 (69%)
- 2 (31%)
- 3 (7%)
- 4 (.6%)
- 5 (.002%)
- 6 (.00003%)

Source: modified from C. Buck, GE
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
Chronic diseases include coronary artery disease, asthma/COPD, CHF and diabetes

<table>
<thead>
<tr>
<th>Diagnosis Driven</th>
<th>Cost Driven</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership</td>
<td>Membership</td>
</tr>
<tr>
<td>Medical Costs</td>
<td>Medical Costs</td>
</tr>
<tr>
<td>11%</td>
<td>25%</td>
</tr>
<tr>
<td>43%</td>
<td>28%</td>
</tr>
<tr>
<td>4%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Distribution of Medical Expenses: Chronic Disease and High Cost Patients
Disease Management Addresses Variations

Admissions for CABG per 1,000

- Terre Haute, IN
- Bangor, ME
- Portland, ME
- Lebanon, NH
- Youngstown, OH
- Charlottesville, VA
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.

Anthem
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
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"

- Cardiology (n=100): 27%
- Endocrinology (n=101): 19%
- Primary Care (401): 38%
- Neurology (n=101): 25%
- Oncology (n=101): 34%
- Psychiatry (n=101): 19%
- Pulmonary (n=100): 22%
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

- 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
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
### Study 1:

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

### 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

<table>
<thead>
<tr>
<th>Category</th>
<th>Pre-Intervention</th>
<th>During Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members with CAD: Had LDL checked in last year and &lt;100</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td>Members with CAD: BP in control at 130/85 or lower</td>
<td>32%</td>
<td></td>
</tr>
<tr>
<td>Members with diabetes who obtained DRE</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Members with diabetes who obtained LDL screening</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td>Members with diabetes adherent with blood glucose monitoring</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Members with CHF who weigh self daily</td>
<td>18%</td>
<td></td>
</tr>
</tbody>
</table>

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

“During Intervention” Period 07/01/2003—12/31/2003
97% Overall Member Satisfaction

- Amount of contact with case manager appropriate to needs: 97.3%
- Information provided helped with health care decisions: 96.8%
- Ability of the case manager to coordinate needed services: 91.7%
- Professionalism and courteous manner of the case manager: 99.5%
- Overall effectiveness of the case manager: 96.8%
- Overall satisfaction with support provided by Anthem: 97.9%
Financial Outcomes: Percent Reductions in ER Visits and Inpatient Admits (Study 2)

-64%  -49%  -27%  -15%

% Change in ER Visits/1000
% Change in Inpatient Admits/1000

-70%  -60%  -50%  -40%  -30%  -20%  -10%  0%

Study 2 Intervention Group  Study 2 Control Group
Financial Outcomes: Percent Reductions in PMPM Costs (Study 2)

-60% -49% -35% -49%

% Change in Inpatient PMPM

% Change in Total Medical PMPM

Study 2 Intervention Group

Study 2 Control Group
### Percent Change from Pre-Intervention to Post-Intervention for Financial Indicators

<table>
<thead>
<tr>
<th></th>
<th>Study 1</th>
<th>Study 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control Group</td>
<td>Intervention Group</td>
</tr>
<tr>
<td><strong>Total PMPM</strong></td>
<td>-38%</td>
<td>-51%</td>
</tr>
<tr>
<td><strong>Inpatient PMPM</strong></td>
<td>-54%</td>
<td>-64%</td>
</tr>
<tr>
<td><strong>Inpatient Admits/1000</strong></td>
<td>-56%</td>
<td>-67%</td>
</tr>
<tr>
<td><strong>ER Visits/1000</strong></td>
<td>-25%</td>
<td>-28%</td>
</tr>
</tbody>
</table>
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
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
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
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
Diabetes OnTrack Program Line – 24/7 line that responds to a member’s voice and captures daily readings

Immunization reminder programs
## Potential Impact of E-Disease Management

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

<table>
<thead>
<tr>
<th></th>
<th>1980</th>
<th>1990</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumer out-of-pocket expense</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Insurance</td>
<td>33</td>
<td>38</td>
<td>40</td>
</tr>
<tr>
<td>Medicare</td>
<td>17</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>Medicaid</td>
<td>11</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>Other*</td>
<td>12</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>100% ($ Millions)</td>
<td>$214</td>
<td>$609</td>
<td>$1,130</td>
</tr>
</tbody>
</table>

*Includes VA, DOD, other public assistance
Source CMS
<table>
<thead>
<tr>
<th>Changes attributable to decline in utilization</th>
<th>Total percent change</th>
<th>Changes attributable to patient co-pay</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>17</td>
<td>17</td>
<td>17</td>
</tr>
</tbody>
</table>

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

- Typically a high-deductible PPO ($1,500 - $4,000)
- 100% covered preventive care

Product and Plan Design
- Cost-share Funding Mechanisms
- Personal Care Account (PCA)
- Medical Savings Account (MSA)
- Complemented by Flexible Spending Account (FSA)
- Health Savings Accounts (HSA)

Consumer-Centric Product
- Deep and broad
- Choice-driven

Flexible Provider Network
- Web based front end
- Benefits integration framework

Consumer Decision Support Tools
- eHealth tools
- eService tools
- Provider directories
- Quality guidance

Technology Platform
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
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
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.

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.

<table>
<thead>
<tr>
<th>Select Factors Important to You</th>
<th>Not Selected</th>
<th>How Important? (Low-Med-High)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Clinical Quality and Experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treated more patients</td>
<td>☐</td>
<td>☐ ☐ ☐ ☐ ☒</td>
</tr>
<tr>
<td>Had fewer patients with complications</td>
<td>☐</td>
<td>☐ ☐ ☐ ☐ ☒</td>
</tr>
<tr>
<td>Had fewer patients with infections</td>
<td>☐</td>
<td>☐ ☐ ☐ ☐ ☒</td>
</tr>
<tr>
<td>Hospital Reputation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public perception</td>
<td>☐</td>
<td>☐ ☐ ☐ ☐ ☒</td>
</tr>
<tr>
<td>Is an accredited (certified) facility</td>
<td>☐</td>
<td>☐ ☐ ☐ ☐ ☒</td>
</tr>
<tr>
<td>Hospital Characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is a teaching hospital</td>
<td>☐</td>
<td>☐ ☐ ☐ ☒ ☐</td>
</tr>
<tr>
<td>Primarily treats children</td>
<td>☐</td>
<td>☐ ☐ ☐ ☒ ☐</td>
</tr>
<tr>
<td>Has many high technology services</td>
<td>☐</td>
<td>☐ ☐ ☐ ☒ ☐</td>
</tr>
<tr>
<td>Has an intensive care unit (ICU)</td>
<td>☐</td>
<td>☐ ☐ ☐ ☒ ☐</td>
</tr>
<tr>
<td>Has a critical care unit for heart problems (CCU)</td>
<td>☐</td>
<td>☐ ☐ ☐ ☒ ☐</td>
</tr>
</tbody>
</table>

[ Reset Factors to Defaults ]
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.

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

- WINCHESTER MEDICAL CENTER
  - 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)

- NOVA FAIRFAX HOSPITAL
  - Match: 99
  - 3000 GALLONS RD, FALLS CHURCH VA 22042
  - Distance: 87 mile(s)
  - Network: HMO/PAR/PPO

- UNIVERSITY OF VIRGINIA HEALTH SYSTEM
  - Match: 98
  - JEFFERSON PARK AVE, CHARLOTTESVILLE VA 22908
  - Distance: 62 mile(s)
  - Network: PAR/PPO
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 may be influenced by a variety of factors, including patient characteristics, disease severity, hospital resources, and other external factors. It is important to consider multiple factors when choosing a hospital for a medical procedure. Always consult your physician for a personalized assessment.

### Hospital Clinical Experience and Outcomes for Selected Procedure

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Winchester Medical Center</th>
<th>Inova Fairfax Hospital</th>
<th>University of Virginia Health System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients Treated in One Year</td>
<td>610</td>
<td>1151</td>
<td>432</td>
</tr>
<tr>
<td>Serious Injuries Treated in One Year</td>
<td>790</td>
<td>891</td>
<td>314</td>
</tr>
<tr>
<td>Complication Rate</td>
<td>Better than Expected</td>
<td>As Expected</td>
<td>As Expected [See Discussion]</td>
</tr>
<tr>
<td>Postoperative Infection Rate</td>
<td>Better than Expected</td>
<td>As Expected</td>
<td>As Expected [See Discussion]</td>
</tr>
<tr>
<td>Mortality Rate</td>
<td>As Expected</td>
<td>As Expected</td>
<td>As Expected [See Discussion]</td>
</tr>
<tr>
<td>Patient Safety Standard for Procedures Expected</td>
<td>Meets Standard</td>
<td>Data Not Available</td>
<td>Data Not Available</td>
</tr>
</tbody>
</table>

### Hospital Overall Patient Safety Standards

<table>
<thead>
<tr>
<th></th>
<th>Winchester Medical Center</th>
<th>Inova Fairfax Hospital</th>
<th>University of Virginia Health System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computerized Physician Order Entry</td>
<td>Does Not Meet Standard</td>
<td>Data Not Available</td>
<td>Data Not Available</td>
</tr>
<tr>
<td>Intermediate Care Unit Physician Staffing</td>
<td>Does Not Meet Standard</td>
<td>Data Not Available</td>
<td>Data Not Available</td>
</tr>
</tbody>
</table>

### Hospital Reputation

<table>
<thead>
<tr>
<th></th>
<th>Winchester Medical Center</th>
<th>Inova Fairfax Hospital</th>
<th>University of Virginia Health System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Perception for Heart Care</td>
<td>Survey Not Conducted In Area</td>
<td>Best In Wisconsin</td>
<td>Survey Not Conducted In Area</td>
</tr>
<tr>
<td>NCAGO Accreditation</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
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
“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