

Corporate Health Achievement Award 2007

Integrating Health Promotion and Healthcare Quality

Paul Hodgins MD MPH
Caterpillar Inc.



Caterpillar Inc.

- World's largest manufacturer of construction and mining equipment, diesel and natural gas engines and industrial gas turbines
- Technology leader in construction, transportation, mining, forestry, energy, logistics and electric power generation
- #1 or #2 for each industry we serve with a 2010 goal of market leadership for every major product group on every continent

Making Progress Possible

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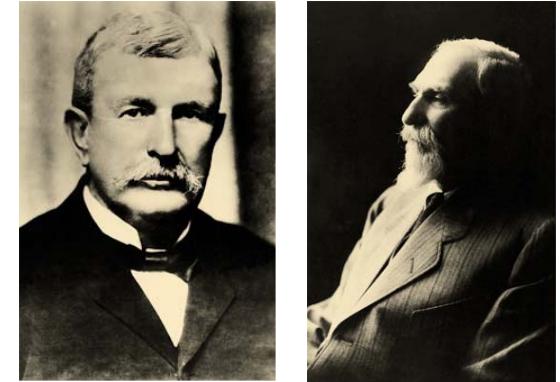
CATERPILLAR CONFIDENTIAL: Green



CATERPILLAR®
TODAY'S WORK. TOMORROW'S WORLD.

Caterpillar Inc.

- Caterpillar Inc., established in 1925 with merger of Holt and Best tractor companies
- First diesel tractor model built in October 1931 in East Peoria, Illinois
- Cat machines served in World War I and II
- World headquarters in Peoria, Illinois



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Caterpillar Inc.

- Global Enterprise
 - Nearly 95,000 employees
 - Nearly 300 operations in 40 countries
 - Over 500 products sold in every country
- Fortune 100 Company / Fortune 500 Global Company
 - Sales and revenues of \$41.5 billion for 2006
 - Sales and revenues of \$50 billion projected by 2010
 - Profit per share of \$5.17 in 2006 vs. \$4.04 in 2005
 - Invested over \$1.35 billion in research & development in 2006

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Caterpillar Products



Excavators



Backhoe loaders



Track-type tractors



Motor graders



Trucks



Paving products



Wheel loaders



Compact construction equipment



Engines

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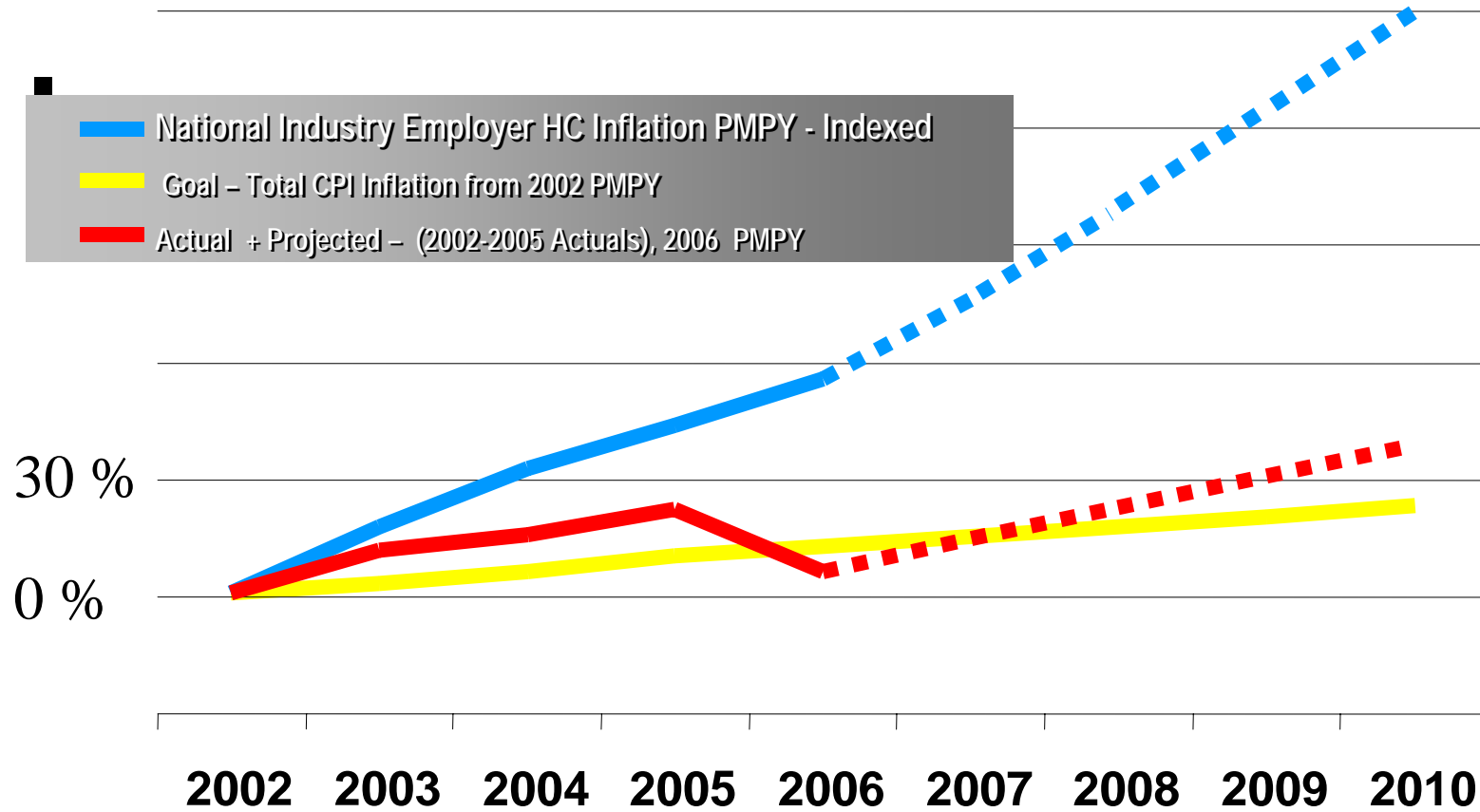


Caterpillar Services

- Cat Logistics
 - Integrated supply chain services to more than 48 companies in 28 countries
- Cat Financial
 - Offers financing alternatives for Cat equipment
- Cat Remanufacturing
 - Recycling end-of-life components to same-as-new condition



Healthcare cost per covered life

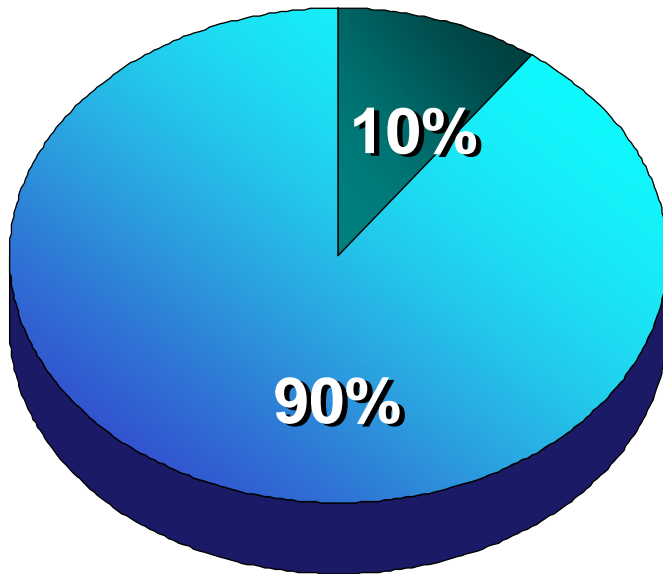


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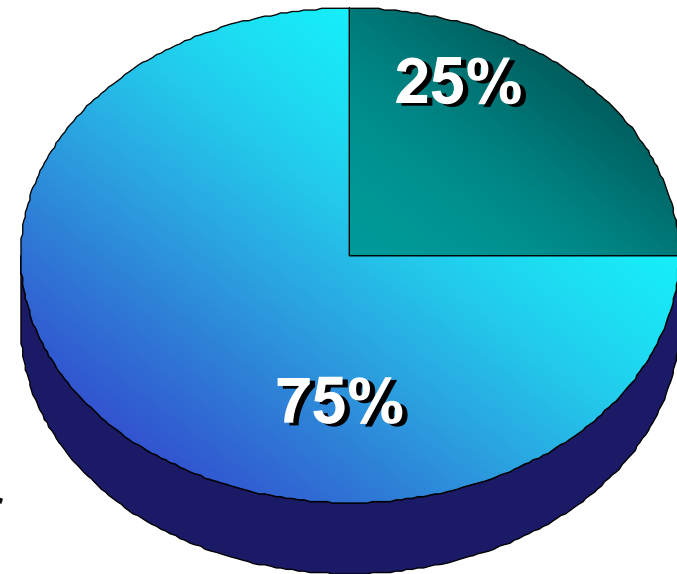


Cost sharing

**2005
Healthcare Costs**



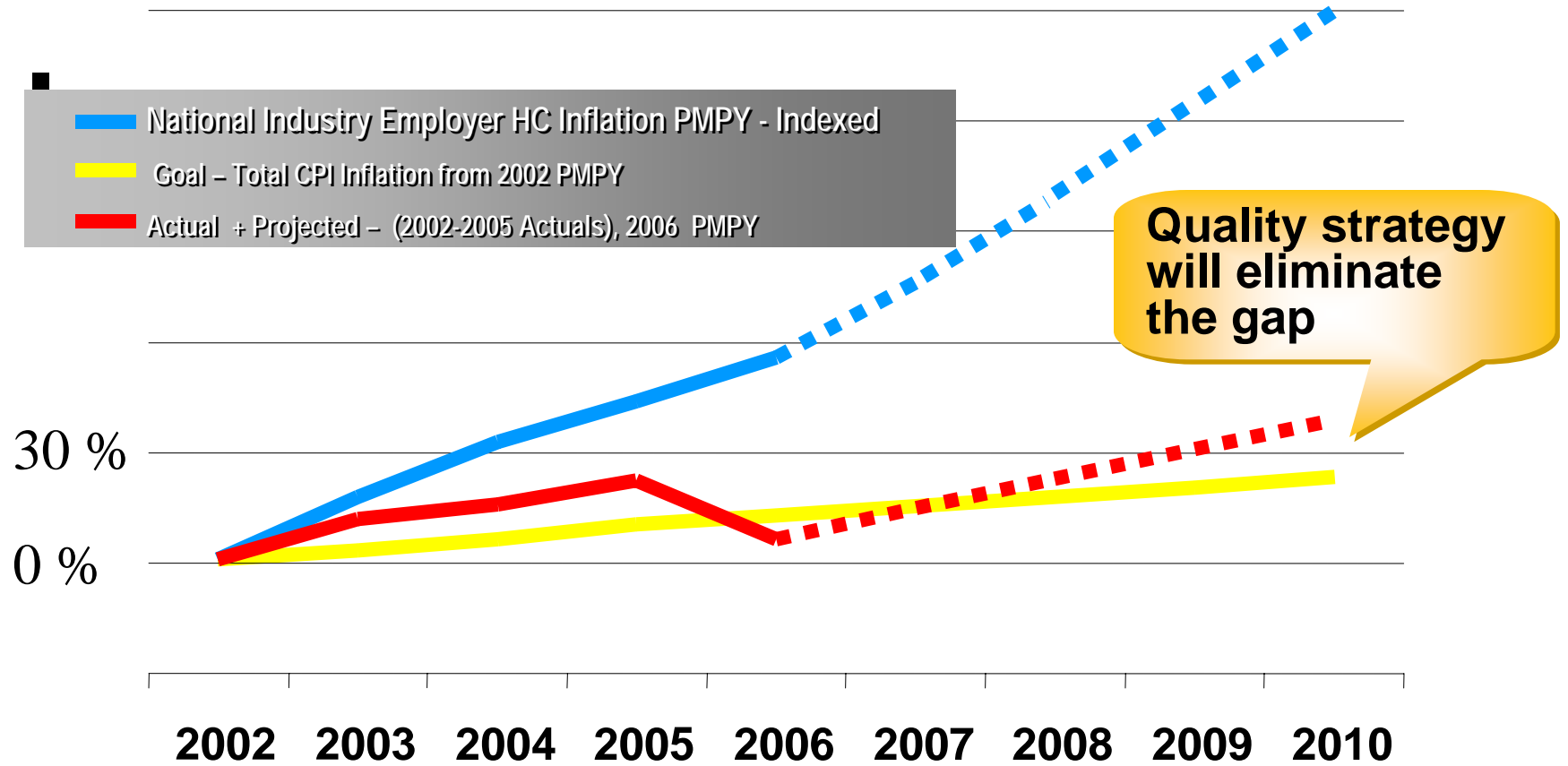
**2006
Healthcare Costs**



Employer
Employee



Healthcare cost per covered life



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Poor quality drives costs

**Rand study
concluded 33% of
U.S. healthcare
spend is waste**

- Inconsistency
 - Misuse, Overuse, Underuse
- Rewards for re-work and volume, not outcomes and quality
- Delays in implementing effective new treatments
- Lack of quality data
- Huge opportunity for savings and engagement



Integration of care

- Improve quality, value and productivity through innovation and partnership
- Participation of all stakeholders
 - Patients: Consumerism
 - Payers: Plan Design
 - Providers: Quality and Efficiency



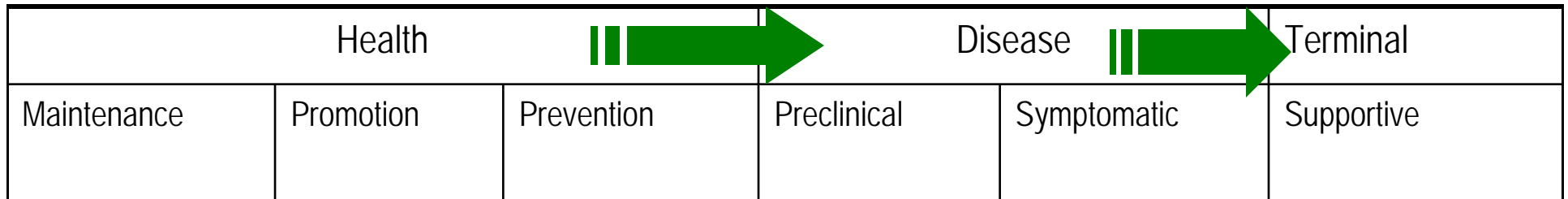
Integration of care

- Aligning visions
- Six sigma methodology
- Pharmacy and medical claims data
- Existing network
- Health Promotion Programs



An Integrated Care Delivery Model

Identify, prioritize and implement opportunities along a continuum of a disease state



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Health Risk Assessment

- All payrolls and includes spouses and retirees
- Over 80% employee participation
- Targeted feedback
- Data warehouse
- Follow-up recommendations



Health Promotion Website

- Health risk calculators for diabetes, heart disease, cancer
- Activity Center
- Nutrition Center / Chef's Corner
- Tobacco cessation
- On-line HRA
- Health topics
- Newsletters



Health Screening Exams

- Hourly, Salaried and Management
- Employees counseled on risk factors
- Leave with recommendation sheet
- Metrics drive health promotion focus
- Biometrics entered in data warehouse
- Drives disease management and local wellness initiatives



An Integrated Care Delivery Model

Health Promotion

- Targeted HRA
- Tailored feedback
- Predictive modeling
- Evidence-based guidelines
- Follow-up reminders

Benefits

- Plan design
- Outcome metrics

Quality

- Provider metrics/ feedback
- Standards of care determination
- Address efficiency, effectiveness, reduce re-work
- Lean manufacturing principles
- Development of integrated programs
- End of life decision-making



Six Sigma Projects

Initiated projects which will integrate health promotion and healthcare delivery

Projects focus on:

Data / Metrics

Clinical Best Practices / Research

Shared Decision-Making

Communications / Behavior Change

Quality



Desired State

- Incentives are aligned and driving healthy behaviors
 - Providers paid for educating members, supporting prevention and maintaining wellness
 - Members encouraged (premium reductions) to live a healthy lifestyle



Goals

1. Reduce the incidence of targeted conditions:

Colorectal cancer

Atherosclerosis

2. Improve quality of care delivered
3. Improve efficiency
4. Seek patient and physician feedback
5. Metrics



Colon cancer

- Second leading cause of U.S. cancer deaths
- 70-80 percent preventable/curable
- Majority diagnosed today are not curable
- Chemotherapy/biologicals, radiation and surgery prolong life at great expense
- 139,000 new cases diagnosed annually in the U.S.

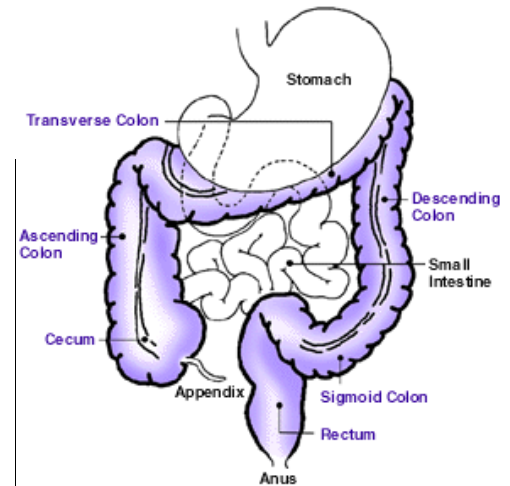


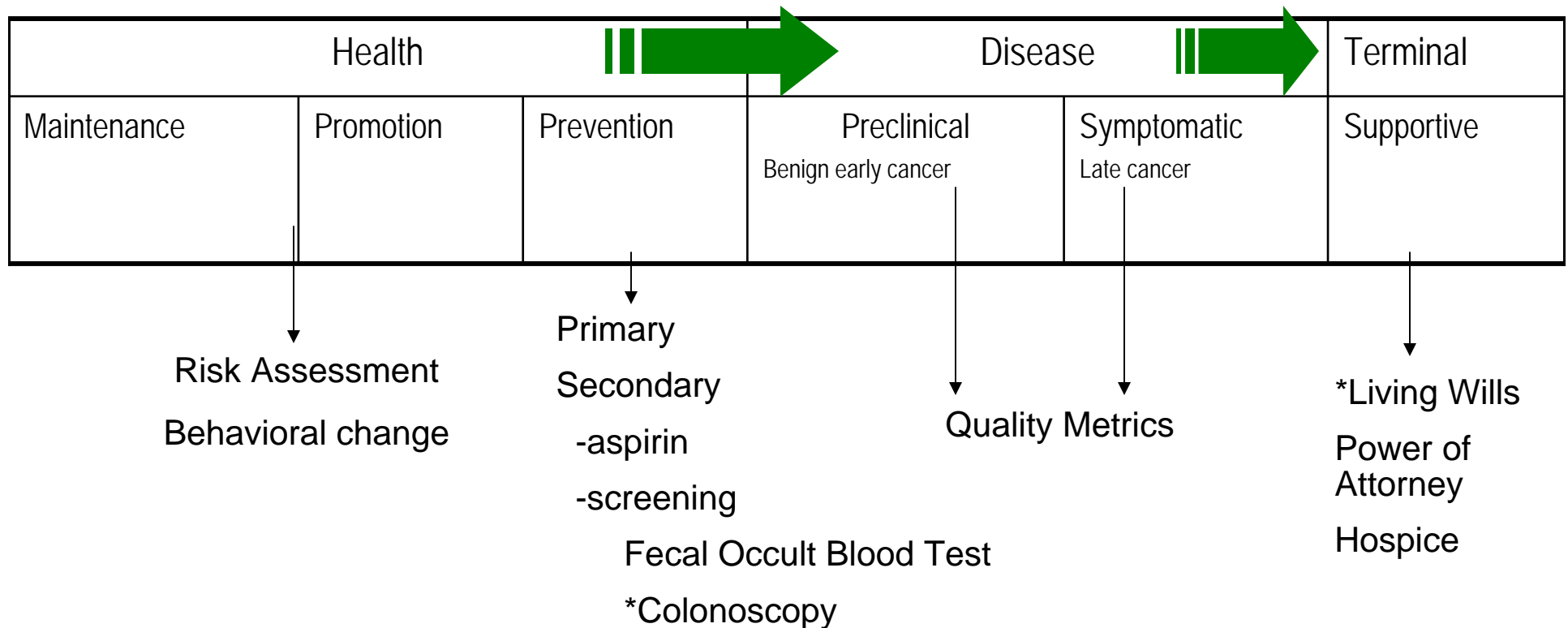
Diagram of the Colon and Rectum



An Integrated Care Delivery Model: Colon Cancer

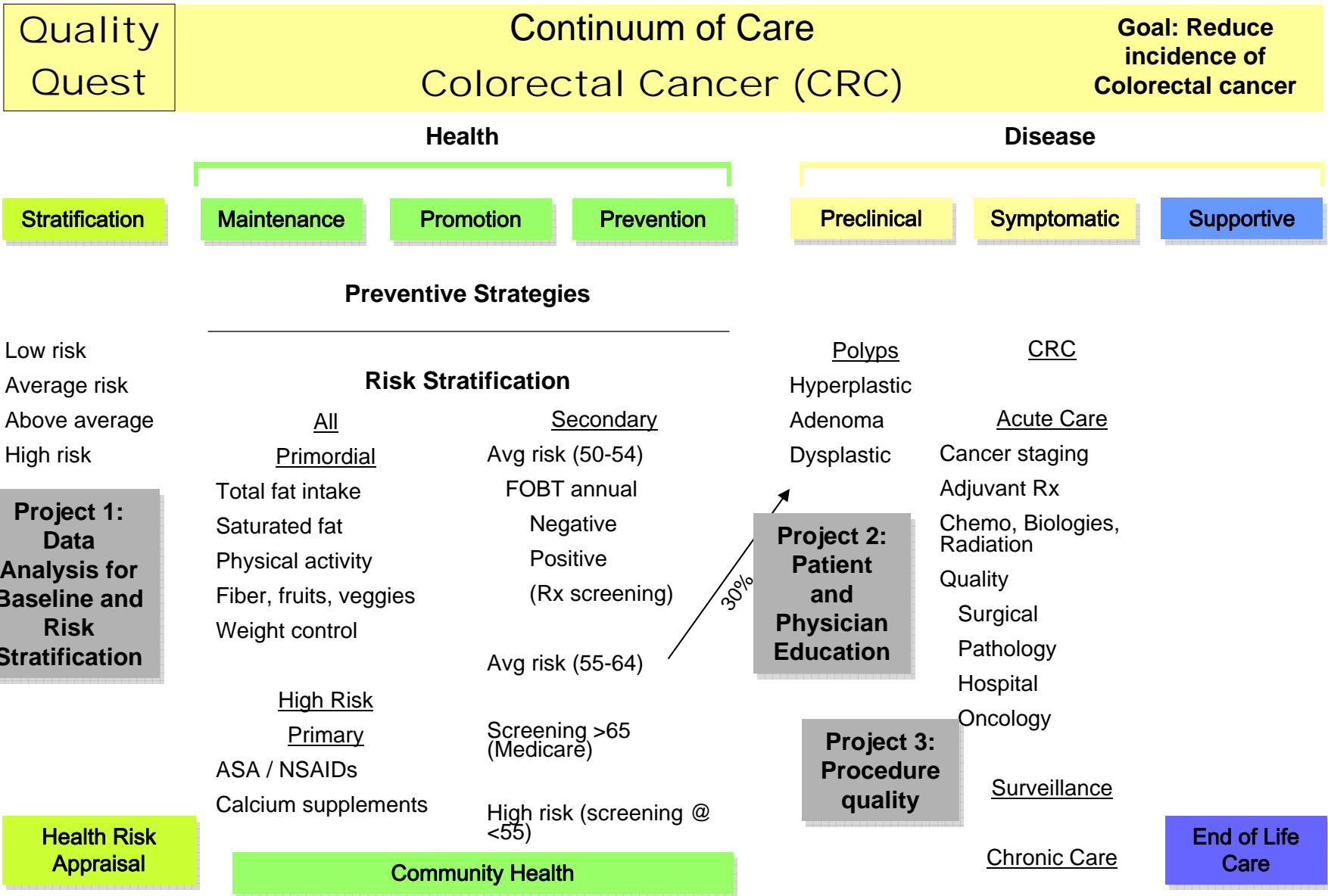
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Identify, prioritize and implement opportunities along a continuum for colon cancer and measure results



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Atherosclerosis

- Leading cause of morbidity and mortality
- High cost
- Potential to reduce risk factors
- Most patients with CV risk factors are not at treatment goals



Quality Quest

Continuum of Care Atherosclerosis

Goal: Reduce cardiovascular events

Health

Disease

Stratification

Maintenance

Promotion

Prevention

Preclinical

Symptomatic

Supportive

Primordial

- Total fat intake
- Saturated fat
- Physical activity
- Fiber, fruits, veggies
- Aspirin
- Avoid tobacco
- Limit calories

Secondary

- Lipid screening
- BP screening
- Diabetes screening
- Tobacco use ID

Hyperlipidemia

- Diet
- Activity
- Drug Rx
- LDL control
- BP control
- Tobacco cessation

Acute Care

- ER chest pain
- ACS
- Acute MI
- Rehab
- Stenting
- Renal
- PVD
- Carotid
- CVA
- OP imaging
- EST
- Doppler
- Angiography

Chronic Care

- CHF
- Follow-up care

Project 1: Data Analysis for Baseline and Risk Stratification

Project 2: Lipid management

Project 3: Patient and Physician Education

Project 4: Procedure quality

Health Risk Appraisal

Community Health

Metrics Quality of Care

End of Life Care

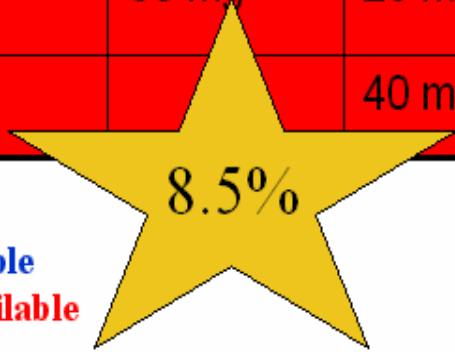
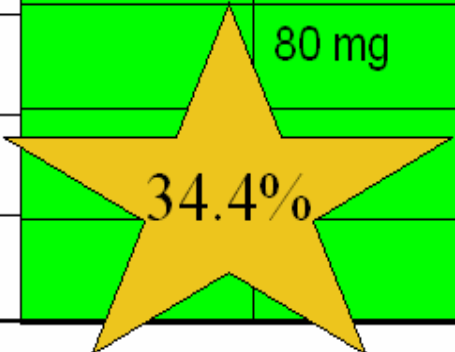
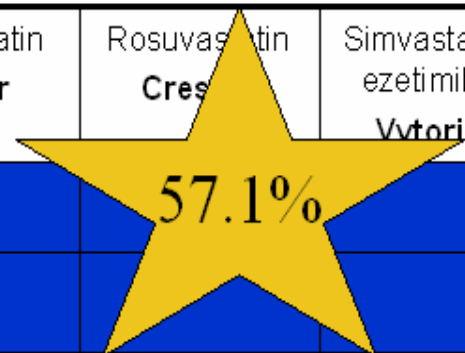
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Measure

Dose Conversion Table for Statins:

LDL Reduction	Lovastatin Mevacor	Simvastatin Zocor	Pravastatin Pravachol	Fluvastatin Lescol	Atorvastatin Lipitor	Rosuvastatin Crestor	Simvastatin/ ezetimibe Vytorin
25-32%	20 mg	10 mg	20 mg	40 mg			
31-39%	40 mg	20 mg	40 mg	80 mg	10 mg		
37-45%	80 mg	40 mg	80 mg		20mg	5 mg	10/10 mg
48-52%		80 mg			40 mg	10 mg	10/20 mg
55-60%					80 mg	20 mg	10/40 mg
60-63%						40 mg	10/80 mg



Green-Available Generically by July 2006

Blue-Brands that will have dose equivalent generics available

Red-Brands that have will have no equivalent generics available

Aspirin Project

- Health Promotion Newsletter addressed aspirin chemoprevention
- HRA identified those at risk of MI
- Tailored feedback based on primary or secondary prevention, contraindications and readiness to change
- 1714 non-users with no contraindications
- 600 (35%) reported starting daily aspirin



Health Scorecard

	Corporation	Facility
Self-Reported Data for Health Promotion Eligible Employees		
Male	30,463	259
Female	8,663	517
Average Age	42	45
Participation Rate	81%	90%
Self-Reported Blood Pressure		
High	6%	5%
BP Unknown	23%	17%
Body Mass Index		
Normal	28%	39%
Overweight	42%	34%
Obese	30%	26%
Smoking Rate	16%	8%
Physically Inactive (Leisure Time)	35%	36%
High Fat Diet	28%	16%
Disease Specific Data (2005)		
Average Employee Cost		
Diabetes Prevalence	5.74%	3.36%
Medical Cost		
Coronary Artery Disease Prevalence	5.45%	3.74%
Medical Cost		

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Health and Productivity Management

- Integrate all elements
 - Healthcare, Plan design, Health promotion, Occupational health, Disability management
- Metrics and goals
- Cultural change
- Involve the leadership



We have a great opportunity to deliver quality improvements and enterprise value.

Thank You

