

Cost Effectiveness Analysis

COPD Disease Mgmt. Prog.

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The Challenge

- Integrated Provider Network
 - CIN, ACO, Closed Network, Etc...
- Tracking care and value
- Tracking the value of care
 - Direct and Indirect Inputs and Outputs
 - Non Linear Relationships

Presentation Agenda

- Problem and Challenge of Disease Management
- Creative Solution
- Overview of Analytical Process
- Results
- Data Detail, Modeling and Validation
- Recommendations
- Next Steps & Opportunities

The Problem

- COPD patients often require interventional care due to disease flare ups resulting from poor personal health management.
- Historically, COPD patients have either visited an Urgent Care Center or been admitted to the Hospital for Intervention.
- Current Costs –

Provider	Cost/Encounter	Annual Encounters	Annual Cost
Urgent Care	\$296	2.5	\$740
Hospitalization	\$6,500	1.0	\$6,500
PCP	\$60	3.0	\$180

Solution or Alternative

- Pharmacy Department saw an opportunity and a need for interventional care that could preclude other providers and hospitalization.
 - Presently Pharmacy Intervention is based on PCP or UC referral.
- Pharmacy directed interventions included, nebulizer treatments, medication adjustments, etc...
- Service may be provided by various levels of Pharmacy staff.
- **Pharmacy Cost is \$35/pt encounter.**

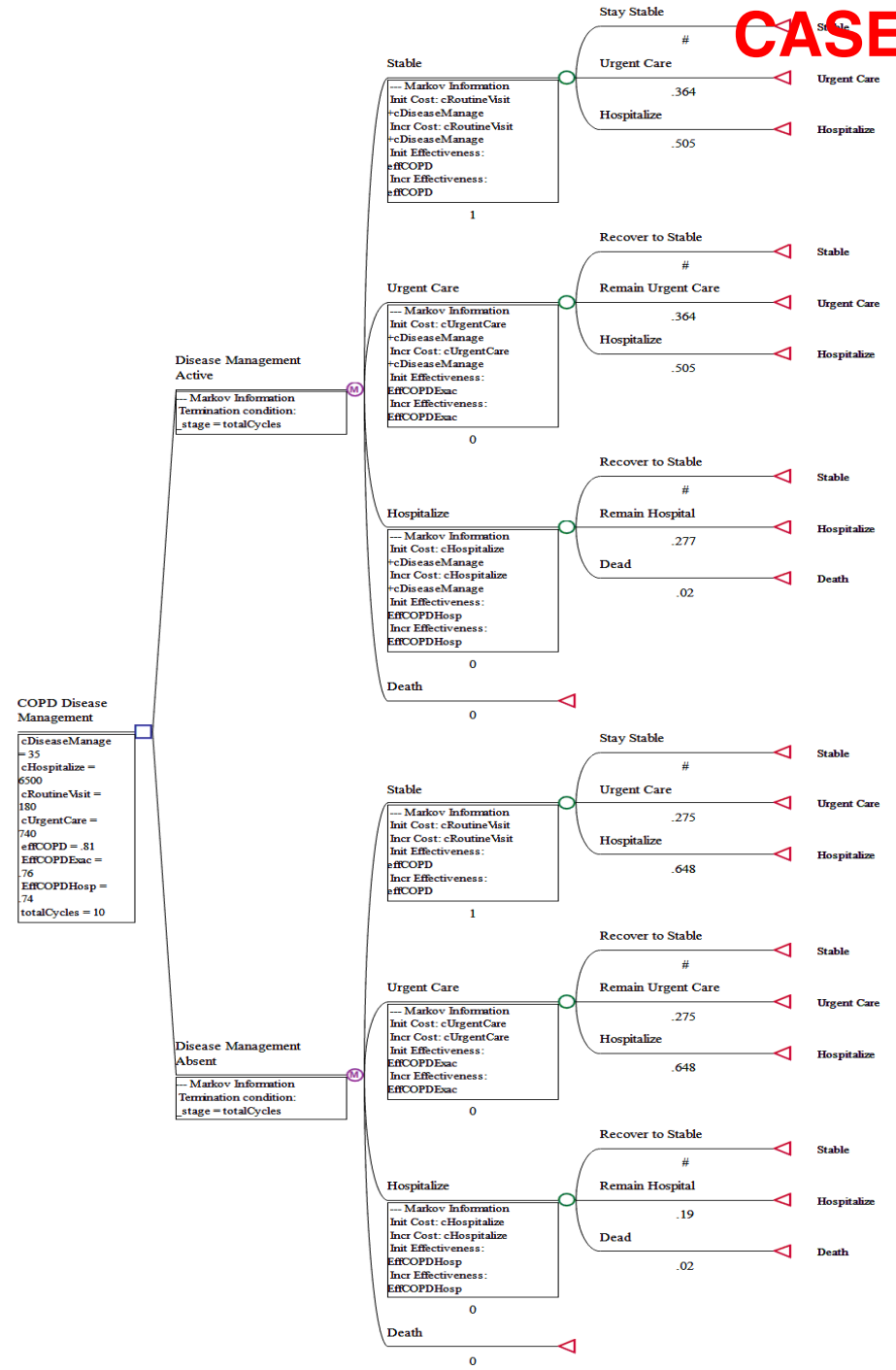
The Analysis

- Utilized a Markov analysis, a trusted model for long term studies of chronic disease.
- Studied the Problem based on annual cycles of 10 consecutive projected years/cycles with two years of actual data input.
- Able to identify a clear set of desirable outcomes and value them accordingly.

CASE STUDY



The Data
How we got there



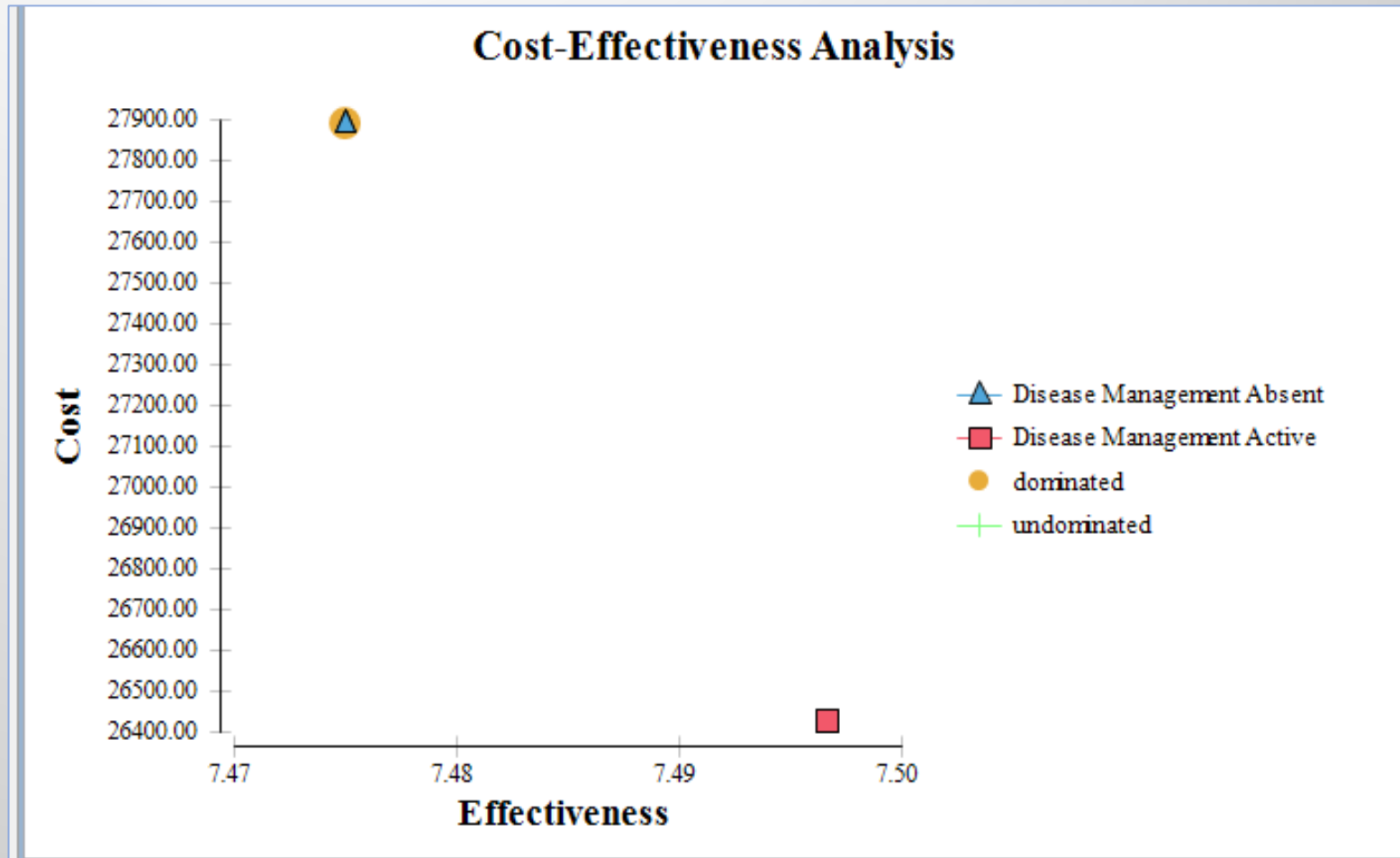
Three Key Results/Outcomes

- Showed Pharmacy Intervention as clinically effective and saving \$437,314 annually based on the current patient level of 194 patients. This is \$2,254/patient/year.
 - Costs: Average less than 15 minutes of Staff Pharmacist time in direct communications and any necessary follow up. Ordering new prescription, medical device, etc...
- Reduced Hospital Admissions – though effective, each averaged \$6,500 in cost.

The Data

Results Graph

		Patients In Study
With COPD Disease Management:		194
Cumulative Cost	\$26,425.52	
Cumulative Effectiveness:	0.71961	
Cumulative Cost	\$36,722.00	
Without COPD Disease Management:		
Cumulative Cost	\$27,888.64	
Cumulative Effectiveness:	0.71553	
Cumulative Cost	\$38,976.20	
Cumulative Annual Savings W/COPD DM	\$ 2,254.20	\$437,314.27



Estimates based on System-wide application

Opportunities		Patients In Study	COPD Patients in Practice			
With COPD Disease Management:		194	250	500	1,000	2,000
Cumulative Cost	\$26,425.52					
Cumulative Effectiveness:	0.71961					
Cumulative Cost	\$36,722.00					
Without COPD Disease Management:						
Cumulative Cost	\$27,888.64					
Cumulative Effectiveness:	0.71553					
Cumulative Cost	\$38,976.20					
Cumulative Annual Savings W/COPD DM	\$2,254.20	\$437,314.27	\$563,549.32	\$1,127,098.63	\$2,254,197.26	\$4,508,394.53

Recommendations

- Expand to all COPD patients within system
- Develop and implement physician educational programming for understanding of treatment changes for:
 - Primary Care
 - Urgent Care
 - Emergency Department
 - Triage Staff
 - Medical Staff
- Evaluate creation of COPD DM Triage desk as initial point of contact for all COPD patients.

Next Steps

- Expand DM for COPD to other managed locations.

Opportunities

- Diabetes Management
- Congestive Heart Failure
- Opioid Prescribing
- Wellness/Health Promotion Programs
- Other areas of high rate of incidence and/or high cost or where value/cost relationship is not linear.