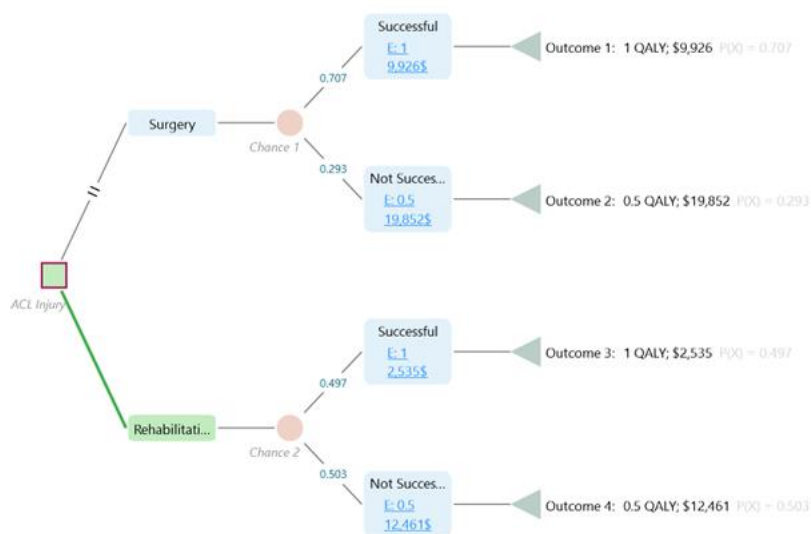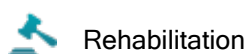## Decision Tree - Which treatment is more cost effective?

● Decision Criterion : Maximize Expected Utility

● Expected Value of Perfect Information : 4,457.71 Utils

Recommendation

⚖ Rehabilitation

Stochastic Dominance

Rehabilitation	(3rd Order) Stochastically Dominates	Surgery

Evaluated Policy

- - Take Rehabilitation as ACL Injury

Criteria

Criterion Name	Relative Priority
Maximize QALY	1
Minimize Cost	1

Possible Paths

Terminal	Total Effectiveness (QALY)	Total Cost ($)	Total Net Monetary Benefit ($)	Expected Probability
ACL Injury → Surgery → Chance 1 → Successful	1	9926	10074	0.707
ACL Injury → Surgery → Chance 1 → Not Successful	0.5	19852	-9852	0.293
ACL Injury → Rehabilitation → Chance 2 → Successful	1	2535	17465	0.497
ACL Injury → Rehabilitation → Chance 2 → Not Successful	0.5	12461	-2461	0.503

Payoff Details

ACL Injury → Surgery → Chance 1 → Successful

Criteria	Value
Maximize Utility	1
Maximize Time	1
Minimize Cost	9926

Criteria	Value
Maximize Utility	0.5
Maximize Time	1
Minimize Cost	19852

ACL Injury → Rehabilitation → Chance 2 → Successful

Criteria	Value
Maximize Utility	1
Maximize Time	1
Minimize Cost	2535

ACL Injury → Rehabilitation → Chance 2 → Not Successful

Criteria	Value
Maximize Utility	0.5
Maximize Time	1
Minimize Cost	12461

Metrics

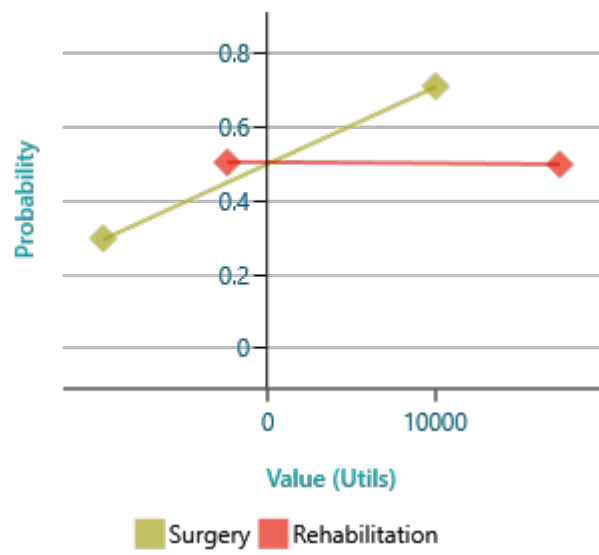| Option Name	CER	QALY (QALY)	ΔEffectiveness (QALY)	ΔCost ($)	ICER
Surgery	15,037.28	0.854	0	0	50,538.48
Rehabilitation	10,057.15	0.749	-0.105	-5,306.54	10,057.15

Cost-Effectiveness Ratio
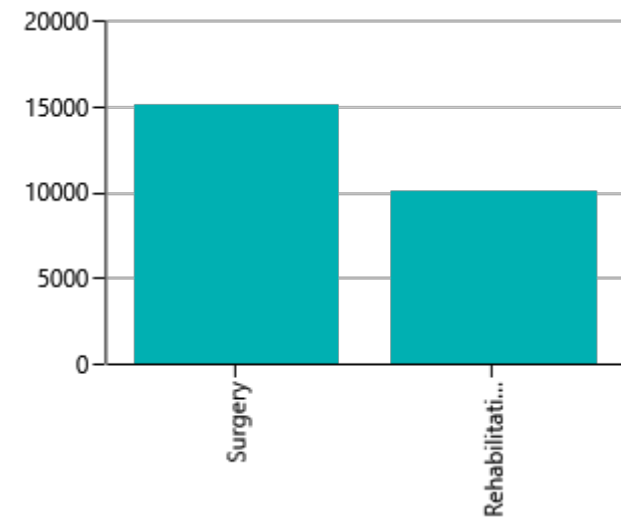
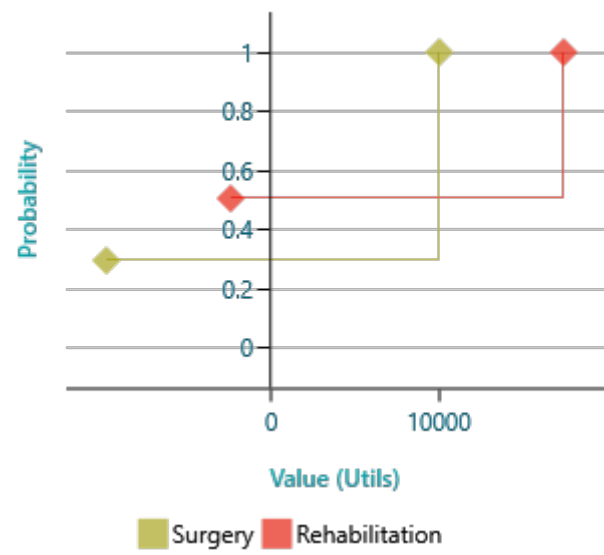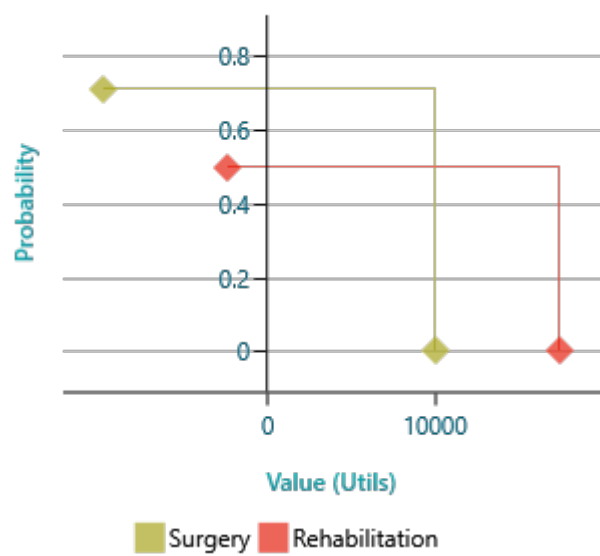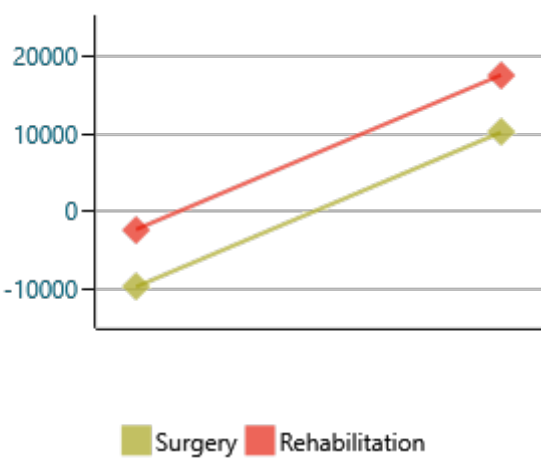## Expected QALY (QALY)
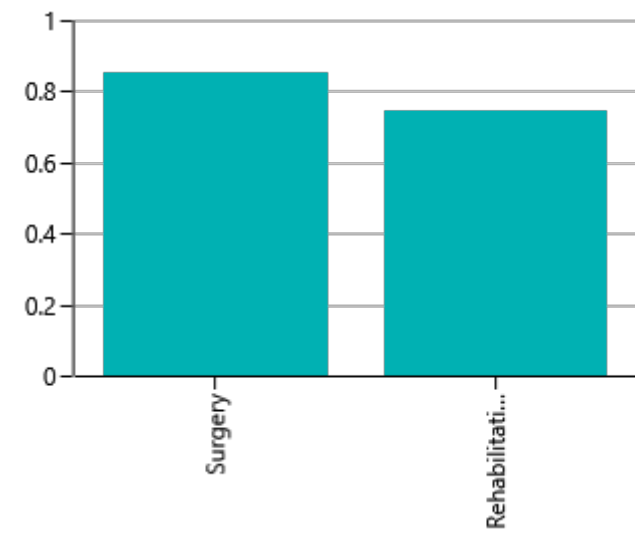
Risk Profile (PMF [P(X = x)])

Risk Profile (CDF [P(X ≤ x)])
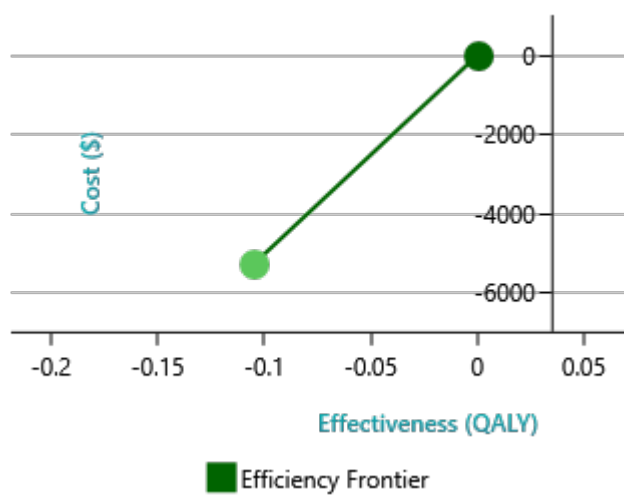
Risk Profile (SF [P(X > x)])

Surgery ■ Rehabilitation

Value Set

■ Surgery ■ Rehabilitation

Cost Effectiveness Plane

■ Efficiency Frontier
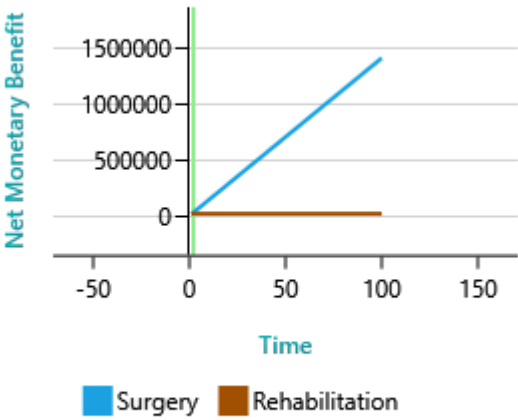
Sensitive Variables (12)

[Option : Surgery]→[Event : Successful]→[Criterion : QALY]→[Variable : Time]→[Value]

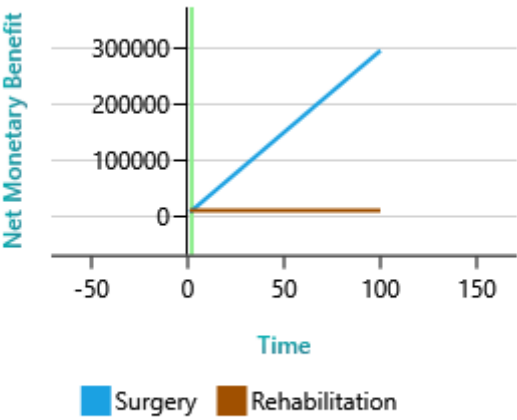[Option : Surgery]→[Event : Not Successful]→[Criterion : QALY]→[Variable : Time]→[Value]

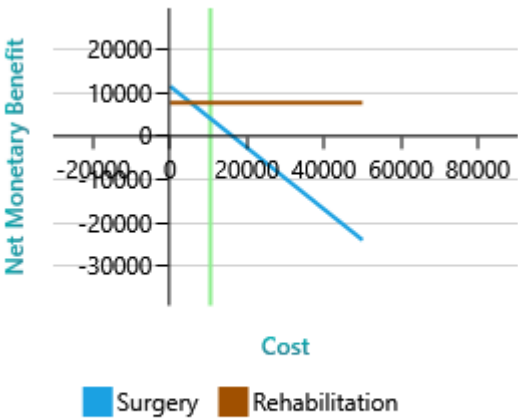**Current Time Value : 1**
Decision Change Sensitivity : 98.99%

Current Time Value : 1
Decision Change Sensitivity : 97.98%

[Option : Surgery]→[Event : Successful]→[Criterion : Cost]→[Value]

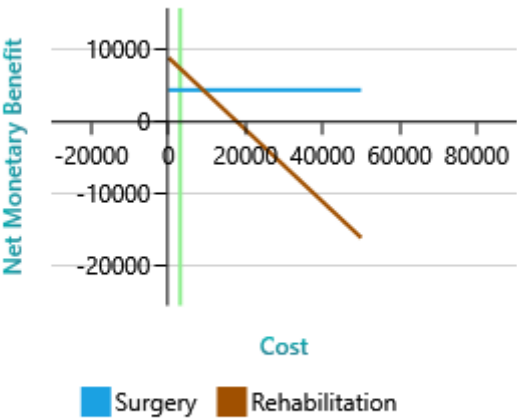[Option : Rehabilitation]→[Event : Successful]→[Criterion : Cost]→[Value]

Current Cost Value : 9,926
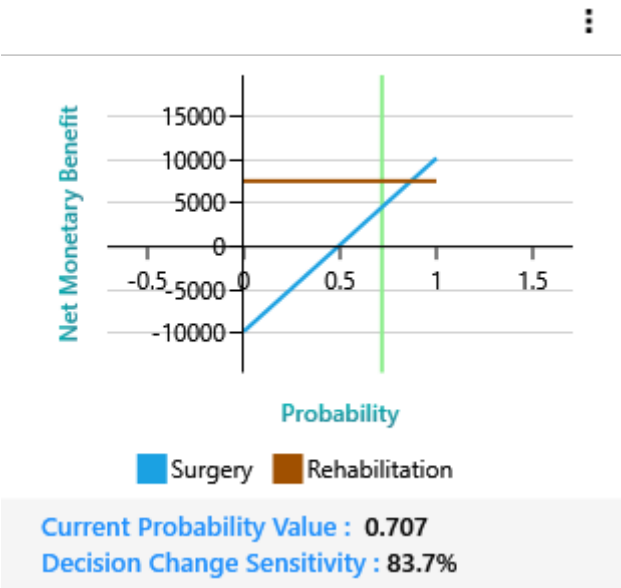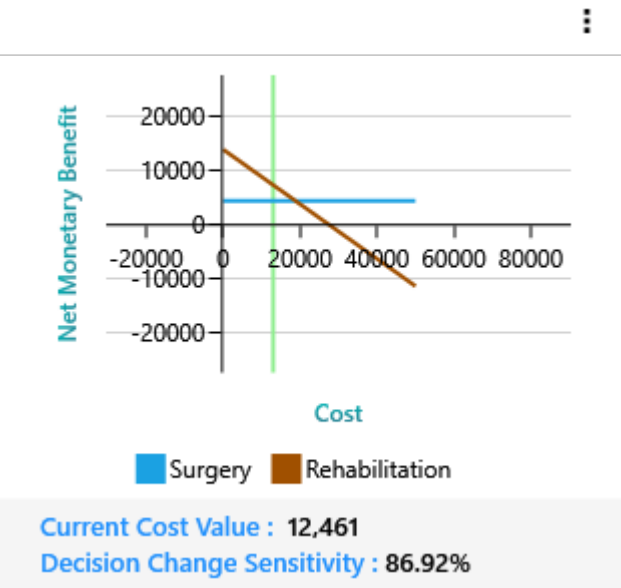**Decision Change Sensitivity : 90.15%**

Current Cost Value : 2,535
Decision Change Sensitivity : 87.07%

[Option : Rehabilitation]→[Event : Not Successful]→[Criterion : Cost]→[Value]

Cost

Surgery   Rehabilitation

Current Cost Value : 12,461
Decision Change Sensitivity : 86.92%

[Option : Surgery]→[Event : Successful]→[Probability]

Probability

Surgery   Rehabilitation

Current Probability Value : 0.707
Decision Change Sensitivity : 83.7%

[Option : Surgery]→[Event : Not Successful]→[Probability]

Probability

Surgery   Rehabilitation

Current Probability Value : 0.293
Decision Change Sensitivity : 83.7%

[Option : Rehabilitation]→[Event : Successful]→[Probability]

Probability

Surgery   Rehabilitation

Current Probability Value : 0.497
Decision Change Sensitivity : 83.3%

[Option : Rehabilitation]→[Event : Not Successful]→[Probability]

Current Probability Value : 0.503
Decision Change Sensitivity : 83.3%

[Option : Surgery]→[Event : Not Successful]→[Criterion : Cost]→[Value]

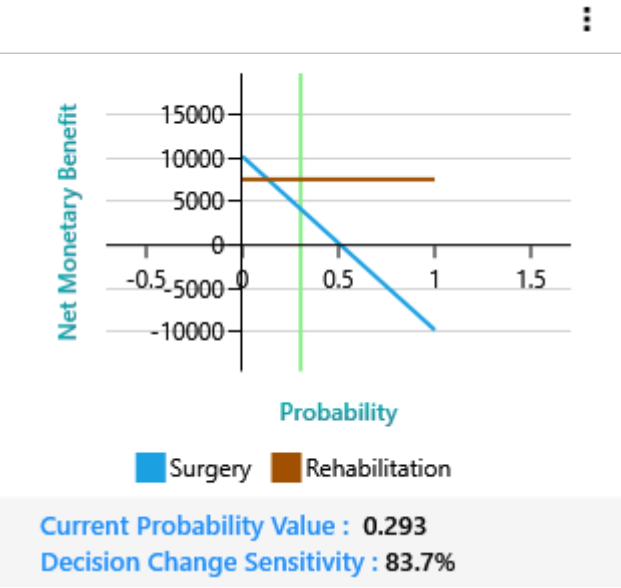**Current Cost Value : 19,852**
Decision Change Sensitivity : 77.3%

[Option : Rehabilitation]→[Event : Not Successful]→[Criterion : QALY]→[Variable : Utility]→[Value]

Current Utility Value : 0.5
Decision Change Sensitivity : 67.68%

[Option : Rehabilitation]→[Event : Successful]→[Criterion : QALY]→[Variable : Utility]→[Value]

Current Utility Value : 1
Decision Change Sensitivity : 66.67%