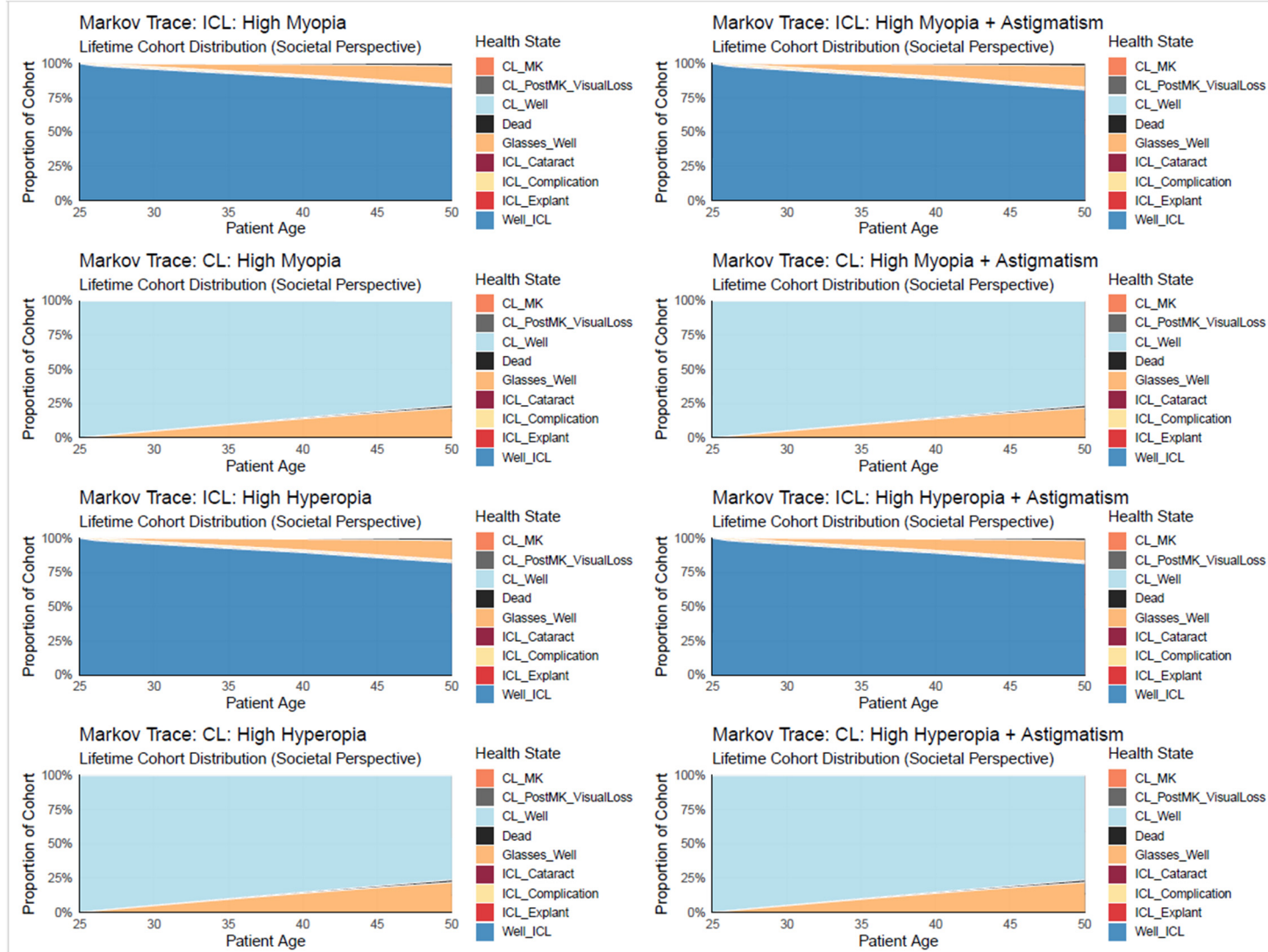
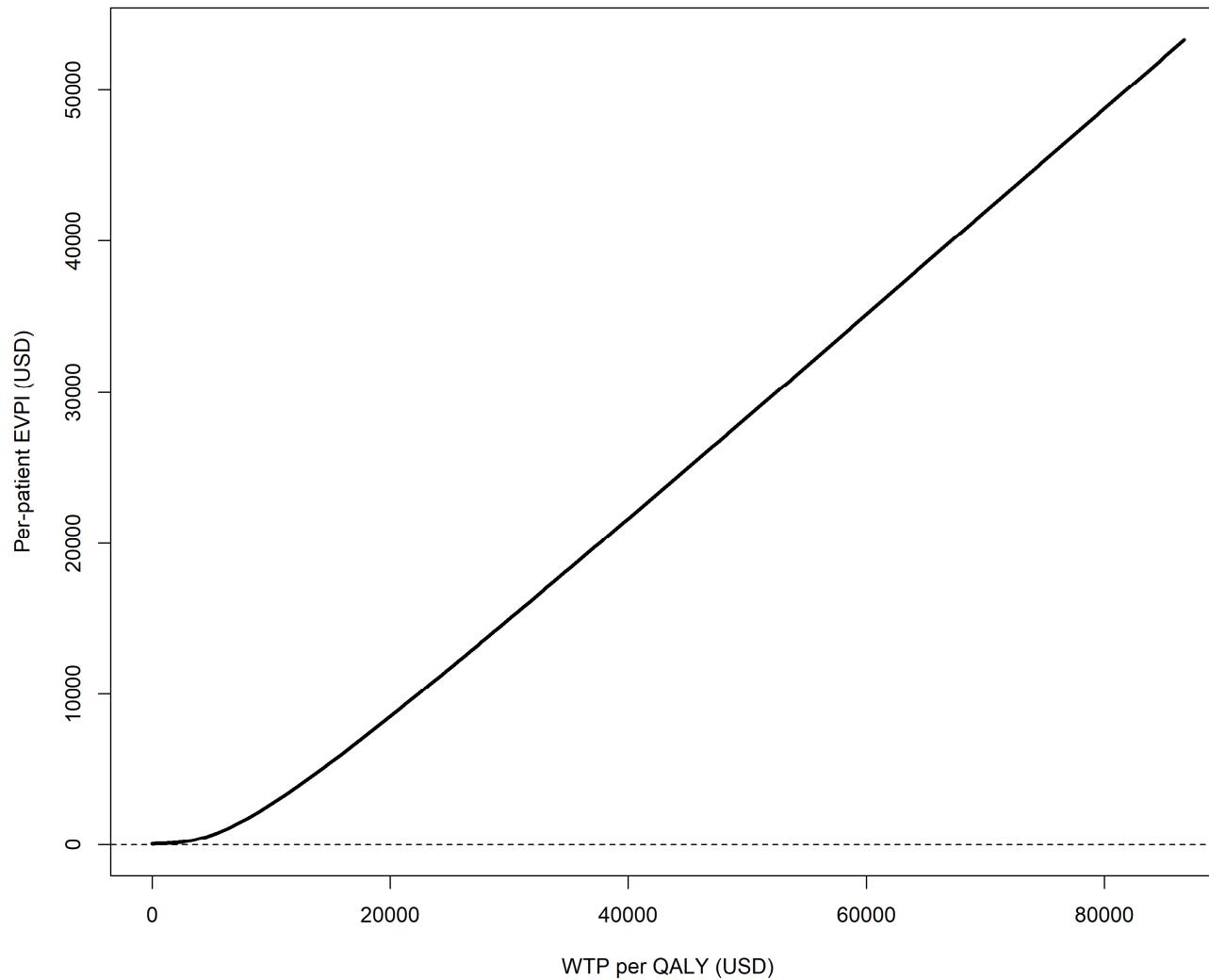


Supplementary Figures and Tables

Supplementary Figure S1. Markov Traces in the study conditions.

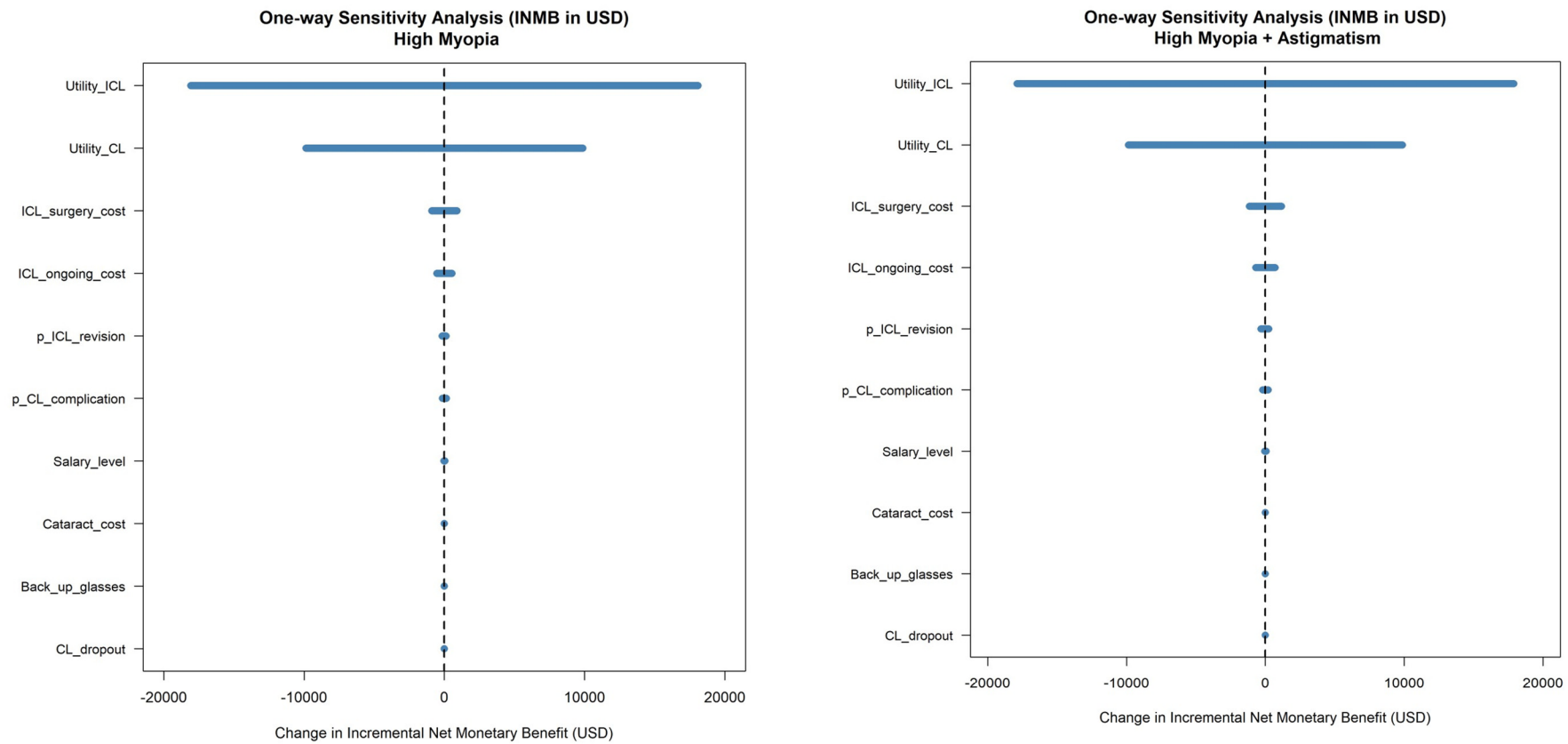


Supplementary Figure S2. Expected Value of Perfect Information (EVPI), The expected value of perfect information (EVPI), estimated for a representative patient using population-weighted model inputs, increased with increasing willingness-to-pay (WTP) thresholds. EVPI was close to zero at low WTP values and increased steadily, reaching approximately 540,000 NOK at a WTP threshold of 875,000 NOK/QALY. This indicates that the value of eliminating parameter uncertainty increases as the WTP threshold increases.

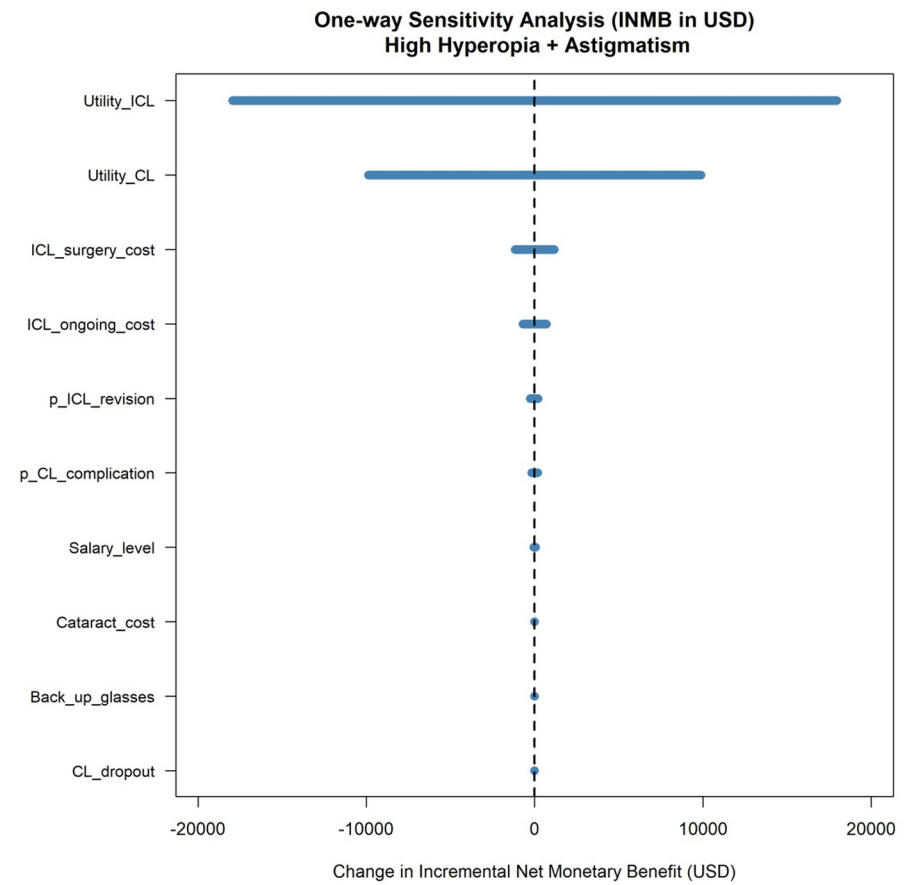
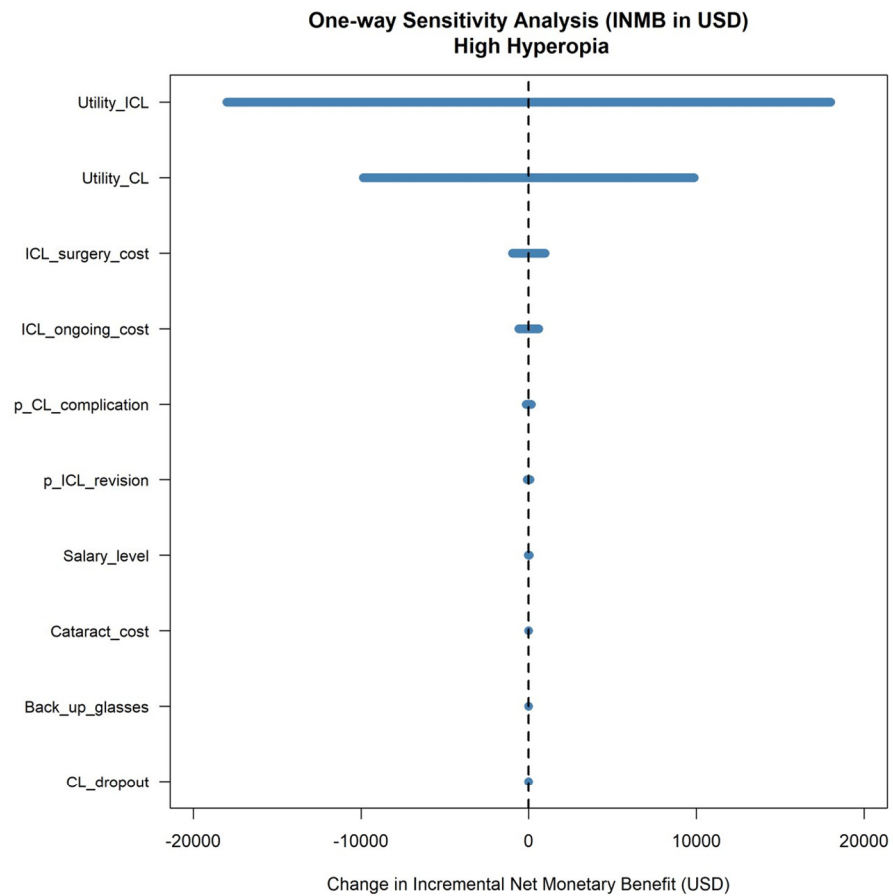


Supplementary Figure S3. Deterministic sensitivity analyses for the study conditions.

A



B



Supplementary Table S1. Transition age matrix.

Year 1_Age 25									
	Well_IC L	ICL_Complica tion	ICL_Expl ant	ICL_Catar act	CL_W ell	CL_M K	CL_PostMK_Visual Loss	Glasses_ Well	Dead
Well_ICL	0.984038 67	0.01	0.005	0.0005	0	0	0	0	0.0004 61
ICL_Complication	0.8	0.16953867	0.02	0.01	0	0	0	0	0.0004 61
ICL_Explant	0	0	0.0195386 7	0	0	0	0	0.98	0.0004 61
ICL_Cataract	0	0	0.2	0.199539	0	0	0	0.6	0.0004 61
CL_Well	0	0	0	0	0.9890 39	0.0005	0	0.01	0.0004 61
CL_MK	0	0	0	0	0.89	0.0095 39	0.1	0	0.0004 61
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.999539	0	0.0004 61
Glasses_Well	0.01	0	0	0	0	0	0	0.989539	0.0004 61
Dead	0	0	0	0	0	0	0	0	1
Year 2_Age 26									
	Well_IC L	ICL_Complica tion	ICL_Expl ant	ICL_Catar act	CL_W ell	CL_M K	CL_PostMK_Visual Loss	Glasses_ Well	Dead
Well_ICL	0.984074 33	0.01	0.005	0.0005	0	0	0	0	0.0004 26
ICL_Complication	0.8	0.16957433	0.02	0.01	0	0	0	0	0.0004 26
ICL_Explant	0	0	0.0195743 3	0	0	0	0	0.98	0.0004 26

Dead	0	0	0	0	0	0	0	0	1
Year 4_Age 28									
	Well_IC L	ICL_Complica tion	ICL_Expl ant	ICL_Catar act	CL_W ell	CL_M K	CL_PostMK_Visual Loss	Glasses_ Well	Dead
Well_ICL	0.983988 33	0.01	0.005	0.0005	0	0	0	0	0.0005 12
ICL_Complication	0.8	0.16948833	0.02	0.01	0	0	0	0	0.0005 12
ICL_Explant	0	0	0.0194883 3	0	0	0	0	0.98	0.0005 12
ICL_Cataract	0	0	0.2	0.199488	0	0	0	0.6	0.0005 12
CL_Well	0	0	0	0	0.9889 88	0.0005	0	0.01	0.0005 12
CL_MK	0	0	0	0	0.89	0.0094 88	0.1	0	0.0005 12
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.999488	0	0.0005 12
Glasses_Well	0.01	0	0	0	0	0	0	0.989488	0.0005 12
Dead	0	0	0	0	0	0	0	0	1
Year 5_Age 29									
	Well_IC L	ICL_Complica tion	ICL_Expl ant	ICL_Catar act	CL_W ell	CL_M K	CL_PostMK_Visual Loss	Glasses_ Well	Dead
Well_ICL	0.983989	0.01	0.005	0.0005	0	0	0	0	0.0005 11
ICL_Complication	0.8	0.169489	0.02	0.01	0	0	0	0	0.0005 11

ICL_Explant	0	0	0.019489	0	0	0	0	0.98	0.000511
ICL_Cataract	0	0	0.2	0.199489	0	0	0	0.6	0.000511
CL_Well	0	0	0	0	0.988989	0.0005	0	0.01	0.000511
CL_MK	0	0	0	0	0.89	0.009489	0.1	0	0.000511
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.999489	0	0.000511
Glasses_Well	0.01	0	0	0	0	0	0	0.989489	0.000511
Dead	0	0	0	0	0	0	0	0	1
Year 6_Age 30									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead
Well_ICL	0.983688	0.01	0.005	0.001	0	0	0	0	0.000312
ICL_Complication	0.8	0.169688	0.02	0.01	0	0	0	0	0.000312
ICL_Explant	0	0	0.019688	0	0	0	0	0.98	0.000312
ICL_Cataract	0	0	0.2	0.199688	0	0	0	0.6	0.000312
CL_Well	0	0	0	0	0.989188	0.0005	0	0.01	0.000312
CL_MK	0	0	0	0	0.89	0.009688	0.1	0	0.000312
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.999688	0	0.000312

Glasses_Well	0.01	0	0	0	0	0	0	0.989688	0.000312
Dead	0	0	0	0	0	0	0	0	1
Year 7_Age 31									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead
Well_ICL	0.983556	0.01	0.005	0.001	0	0	0	0	0.000444
ICL_Complication	0.8	0.169556	0.02	0.01	0	0	0	0	0.000444
ICL_Explant	0	0	0.019556	0	0	0	0	0.98	0.000444
ICL_Cataract	0	0	0.2	0.199556	0	0	0	0.6	0.000444
CL_Well	0	0	0	0	0.989056	0.0005	0	0.01	0.000444
CL_MK	0	0	0	0	0.89	0.009556	0.1	0	0.000444
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.999556	0	0.000444
Glasses_Well	0.01	0	0	0	0	0	0	0.989556	0.000444
Dead	0	0	0	0	0	0	0	0	1
Year 8_Age 32									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead
Well_ICL	0.98350233	0.01	0.005	0.001	0	0	0	0	0.000498

ICL_Complication	0.8	0.16950233	0.02	0.01	0	0	0	0	0.000498
ICL_Explant	0	0	0.01950233	0	0	0	0	0.98	0.000498
ICL_Cataract	0	0	0.2	0.199502	0	0	0	0.6	0.000498
CL_Well	0	0	0	0	0.989002	0.0005	0	0.01	0.000498
CL_MK	0	0	0	0	0.89	0.009502	0.1	0	0.000498
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.999502	0	0.000498
Glasses_Well	0.01	0	0	0	0	0	0	0.989502	0.000498
Dead	0	0	0	0	0	0	0	0	1
Year 9_Age 33									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead
Well_ICL	0.983546	0.01	0.005	0.001	0	0	0	0	0.000454
ICL_Complication	0.8	0.169546	0.02	0.01	0	0	0	0	0.000454
ICL_Explant	0	0	0.019546	0	0	0	0	0.98	0.000454
ICL_Cataract	0	0	0.2	0.199546	0	0	0	0.6	0.000454
CL_Well	0	0	0	0	0.989046	0.0005	0	0.01	0.000454
CL_MK	0	0	0	0	0.89	0.009546	0.1	0	0.000454

CL_PostMK_Visual Loss	0	0	0	0	0	0	0.999546	0	0.000454
Glasses_Well	0.01	0	0	0	0	0	0	0.989546	0.000454
Dead	0	0	0	0	0	0	0	0	1
Year 10_Age 34									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead
Well_ICL	0.98336133	0.01	0.005	0.001	0	0	0	0	0.000639
ICL_Complication	0.8	0.16936133	0.02	0.01	0	0	0	0	0.000639
ICL_Explant	0	0	0.01936133	0	0	0	0	0.98	0.000639
ICL_Cataract	0	0	0.2	0.199361	0	0	0	0.6	0.000639
CL_Well	0	0	0	0	0.988861	0.0005	0	0.01	0.000639
CL_MK	0	0	0	0	0.89	0.009361	0.1	0	0.000639
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.999361	0	0.000639
Glasses_Well	0.01	0	0	0	0	0	0	0.989361	0.000639
Dead	0	0	0	0	0	0	0	0	1
Year 11_Age 35									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead

Well_ICL	0.983503	0.01	0.005	0.001	0	0	0	0	0.000497
ICL_Complication	0.8	0.169503	0.02	0.01	0	0	0	0	0.000497
ICL_Explant	0	0	0.019503	0	0	0	0	0.98	0.000497
ICL_Cataract	0	0	0.2	0.199503	0	0	0	0.6	0.000497
CL_Well	0	0	0	0	0.989003	0.0005	0	0.01	0.000497
CL_MK	0	0	0	0	0.89	0.009503	0.1	0	0.000497
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.999503	0	0.000497
Glasses_Well	0.01	0	0	0	0	0	0	0.989503	0.000497
Dead	0	0	0	0	0	0	0	0	1
Year 12_Age 36									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead
Well_ICL	0.98351967	0.01	0.005	0.001	0	0	0	0	0.00048
ICL_Complication	0.8	0.16951967	0.02	0.01	0	0	0	0	0.00048
ICL_Explant	0	0	0.01951967	0	0	0	0	0.98	0.00048
ICL_Cataract	0	0	0.2	0.19952	0	0	0	0.6	0.00048
CL_Well	0	0	0	0	0.98902	0.0005	0	0.01	0.00048

[illegible]

	Well_IC L	ICL_Complica tion	ICL_Expl ant	ICL_Catar act	CL_W ell	CL_M K	CL_PostMK_Visual Loss	Glasses_ Well	Dead
Well_ICL	0.983398 67	0.01	0.005	0.001	0	0	0	0	0.0006 01
ICL_Complication	0.8	0.16939867	0.02	0.01	0	0	0	0	0.0006 01
ICL_Explant	0	0	0.0193986 7	0	0	0	0	0.98	0.0006 01
ICL_Cataract	0	0	0.2	0.199399	0	0	0	0.6	0.0006 01
CL_Well	0	0	0	0	0.9888 99	0.0005	0	0.01	0.0006 01
CL_MK	0	0	0	0	0.89	0.0093 99	0.1	0	0.0006 01
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.999399	0	0.0006 01
Glasses_Well	0.01	0	0	0	0	0	0	0.989399	0.0006 01
Dead	0	0	0	0	0	0	0	0	1
Year 15_Age 39									
	Well_IC L	ICL_Complica tion	ICL_Expl ant	ICL_Catar act	CL_W ell	CL_M K	CL_PostMK_Visual Loss	Glasses_ Well	Dead
Well_ICL	0.983056 33	0.01	0.005	0.001	0	0	0	0	0.0009 44
ICL_Complication	0.8	0.16905633	0.02	0.01	0	0	0	0	0.0009 44
ICL_Explant	0	0	0.0190563 3	0	0	0	0	0.98	0.0009 44

Dead	0	0	0	0	0	0	0	0	1
Year 17_Age 41									
	Well_IC L	ICL_Complica tion	ICL_Expl ant	ICL_Catar act	CL_W ell	CL_M K	CL_PostMK_Visual Loss	Glasses_ Well	Dead
Well_ICL	0.981166 67	0.01	0.005	0.003	0	0	0	0	0.0008 33
ICL_Complication	0.8	0.16916667	0.02	0.01	0	0	0	0	0.0008 33
ICL_Explant	0	0	0.0191666 7	0	0	0	0	0.98	0.0008 33
ICL_Cataract	0	0	0.2	0.199167	0	0	0	0.6	0.0008 33
CL_Well	0	0	0	0	0.9886 67	0.0005	0	0.01	0.0008 33
CL_MK	0	0	0	0	0.89	0.0091 67	0.1	0	0.0008 33
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.999167	0	0.0008 33
Glasses_Well	0.01	0	0	0	0	0	0	0.989167	0.0008 33
Dead	0	0	0	0	0	0	0	0	1
Year 18_Age 42									
	Well_IC L	ICL_Complica tion	ICL_Expl ant	ICL_Catar act	CL_W ell	CL_M K	CL_PostMK_Visual Loss	Glasses_ Well	Dead
Well_ICL	0.98121	0.01	0.005	0.003	0	0	0	0	0.0007 9
ICL_Complication	0.8	0.16921	0.02	0.01	0	0	0	0	0.0007 9

ICL_Explant	0	0	0.01921	0	0	0	0	0.98	0.00079
ICL_Cataract	0	0	0.2	0.19921	0	0	0	0.6	0.00079
CL_Well	0	0	0	0	0.98871	0.0005	0	0.01	0.00079
CL_MK	0	0	0	0	0.89	0.00921	0.1	0	0.00079
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.99921	0	0.00079
Glasses_Well	0.01	0	0	0	0	0	0	0.98921	0.00079
Dead	0	0	0	0	0	0	0	0	1
Year 19_Age 43									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead
Well_ICL	0.98109433	0.01	0.005	0.003	0	0	0	0	0.000906
ICL_Complication	0.8	0.16909433	0.02	0.01	0	0	0	0	0.000906
ICL_Explant	0	0	0.01909433	0	0	0	0	0.98	0.000906
ICL_Cataract	0	0	0.2	0.199094	0	0	0	0.6	0.000906
CL_Well	0	0	0	0	0.988594	0.0005	0	0.01	0.000906
CL_MK	0	0	0	0	0.89	0.009094	0.1	0	0.000906
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.999094	0	0.000906

Glasses_Well	0.01	0	0	0	0	0	0	0.989094	0.000906
Dead	0	0	0	0	0	0	0	0	1
Year 20_Age 44									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead
Well_ICL	0.980968	0.01	0.005	0.003	0	0	0	0	0.001032
ICL_Complication	0.8	0.168968	0.02	0.01	0	0	0	0	0.001032
ICL_Explant	0	0	0.018968	0	0	0	0	0.98	0.001032
ICL_Cataract	0	0	0.2	0.198968	0	0	0	0.6	0.001032
CL_Well	0	0	0	0	0.988468	0.0005	0	0.01	0.001032
CL_MK	0	0	0	0	0.89	0.008968	0.1	0	0.001032
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.998968	0	0.001032
Glasses_Well	0.01	0	0	0	0	0	0	0.988968	0.001032
Dead	0	0	0	0	0	0	0	0	1
Year 21_Age 45									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead
Well_ICL	0.98086833	0.01	0.005	0.003	0	0	0	0	0.001132

ICL_Complication	0.8	0.16886833	0.02	0.01	0	0	0	0	0.001132
ICL_Explant	0	0	0.01886833	0	0	0	0	0.98	0.001132
ICL_Cataract	0	0	0.2	0.198868	0	0	0	0.6	0.001132
CL_Well	0	0	0	0	0.988368	0.0005	0	0.01	0.001132
CL_MK	0	0	0	0	0.89	0.008868	0.1	0	0.001132
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.998868	0	0.001132
Glasses_Well	0.01	0	0	0	0	0	0	0.988868	0.001132
Dead	0	0	0	0	0	0	0	0	1
Year 22_Age 46									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead
Well_ICL	0.98090533	0.01	0.005	0.003	0	0	0	0	0.001095
ICL_Complication	0.8	0.16890533	0.02	0.01	0	0	0	0	0.001095
ICL_Explant	0	0	0.01890533	0	0	0	0	0.98	0.001095
ICL_Cataract	0	0	0.2	0.198905	0	0	0	0.6	0.001095
CL_Well	0	0	0	0	0.988405	0.0005	0	0.01	0.001095
CL_MK	0	0	0	0	0.89	0.008905	0.1	0	0.001095

CL_PostMK_Visual Loss	0	0	0	0	0	0	0.998905	0	0.001095
Glasses_Well	0.01	0	0	0	0	0	0	0.988905	0.001095
Dead	0	0	0	0	0	0	0	0	1
Year 23_Age 47									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead
Well_ICL	0.98066967	0.01	0.005	0.003	0	0	0	0	0.00133
ICL_Complication	0.8	0.16866967	0.02	0.01	0	0	0	0	0.00133
ICL_Explant	0	0	0.01866967	0	0	0	0	0.98	0.00133
ICL_Cataract	0	0	0.2	0.19867	0	0	0	0.6	0.00133
CL_Well	0	0	0	0	0.98817	0.0005	0	0.01	0.00133
CL_MK	0	0	0	0	0.89	0.00867	0.1	0	0.00133
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.99867	0	0.00133
Glasses_Well	0.01	0	0	0	0	0	0	0.98867	0.00133
Dead	0	0	0	0	0	0	0	0	1
Year 24_Age 48									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead

Well_ICL	0.980787	0.01	0.005	0.003	0	0	0	0	0.001213
ICL_Complication	0.8	0.168787	0.02	0.01	0	0	0	0	0.001213
ICL_Explant	0	0	0.018787	0	0	0	0	0.98	0.001213
ICL_Cataract	0	0	0.2	0.198787	0	0	0	0.6	0.001213
CL_Well	0	0	0	0	0.988287	0.0005	0	0.01	0.001213
CL_MK	0	0	0	0	0.89	0.008787	0.1	0	0.001213
CL_PostMK_Visual Loss	0	0	0	0	0	0	0.998787	0	0.001213
Glasses_Well	0.01	0	0	0	0	0	0	0.988787	0.001213
Dead	0	0	0	0	0	0	0	0	1
Year 25_Age 49									
	Well_ICL	ICL_Complication	ICL_Explant	ICL_Cataract	CL_Well	CL_MK	CL_PostMK_Visual Loss	Glasses_Well	Dead
Well_ICL	0.98029	0.01	0.005	0.003	0	0	0	0	0.00171
ICL_Complication	0.8	0.16829	0.02	0.01	0	0	0	0	0.00171
ICL_Explant	0	0	0.01829	0	0	0	0	0.98	0.00171
ICL_Cataract	0	0	0.2	0.19829	0	0	0	0.6	0.00171
CL_Well	0	0	0	0	0.98779	0.0005	0	0.01	0.00171

Supplementary Table S2. Base case utilities and relevant adjustments.

State Utilities				
State	Utility	Range_low	Range_high	Sources
Well_ICL	0.89	0.87	0.91	(Brown et al., 2003; Jeong et al., 2010; Packer, 2016; Pesudovs et al., 2006; Queirós et al., 2012; Syah et al., 2021; van Hemert et al., 2025)
ICL_Complication	0.7	0.5	0.85	
ICL_Explant	0.86	0.83	0.89	
ICL_Cataract	0.6	0.4	0.8	
CL_Well	0.87	0.85	0.9	
CL_MK	0.4	0.2	0.8	
CL_PostMK_VisualLoss	0.6	0.4	0.8	
Glasses_Well	0.88	0.8	0.95	
Dead	0	0	0	
Subgroup utility adjustments				
Subgroup	Adjust ICL	Adjust CL	Glasses	
High Myopia	0	0	0	Assumptions Toric ICL often gives superior uncorrected vision vs CL, Slightly lower post operation satisfaction reported in some hyperopic cohorts and Mixed evidence; conservative adjustments
High Myopia + Astigmatism	0.02	-0.01	0	
High Hyperopia	-0.01	0	0	
High Hyperopia + Astigmatism	0	-0.01	0	
Subgroup cost adjustments				
Subgroup	ICL_cost_factor	ICL_complication_multiplier	cataract_add_per_year	Assumptions Slightly higher complication risk due to axial length, Toric lens extra cost; modestly higher reposition risk, Higher cataract risk observed in hyperopic ICL cohorts and Combined effects: toric cost + higher cataract risk
High Myopia	1	1.1	0	
High Myopia + Astigmatism	1.2	1.15	0	
High Hyperopia	1.1	1.05	0.002	
High Hyperopia + Astigmatism	1.25	1.15	0.003	