

Appendix Table 1: Cox-Model

Covariate	Survival		Myocardial Infarction		Repeat PCI/CABG	
	HR (95% CI)	p-value	HR (95% CI)	p-value	HR (95% CI)	p-value
<b>Treatment</b>						
Medical therapy	referent		referent		referent	
Revascularization	0.76 (0.68-0.84)	<0.001	0.78 (0.72-0.85)	<0.001	0.59 (0.50-0.70)	<0.001
<b>Demographics</b>						
Age, yrs	1.06 (1.05-1.06)	<0.001	1.008 (1.003-1.014)	0.001	0.99(0.99-0.995)	0.001
Male gender	1.18 (1.07-1.30)	0.001	0.94 (0.88-0.998)	0.043	1.05 (0.99-1.12)	0.097
Rural	1.03 (0.90-1.18)	0.678	0.96 (0.86-1.07)	0.436	0.99 (0.90-1.08)	0.795
Income						
5	referent		referent		referent	
1	1.32 (1.18-1.48)	<0.001	1.24 (1.13-1.37)	<0.001	1.01(0.94-1.09)	0.702
2	1.15 (1.02-1.30)	0.023	1.10 (1.03-1.17)	0.004	1.00 (0.92-1.07)	0.916
3	1.04 (0.92-1.16)	0.561	1.05 (0.97-1.14)	0.234	1.03 (0.96-1.11)	0.431
4	1.15 (1.04-1.27)	0.005	0.99 (0.88-1.10)	0.812	0.96 (0.88-1.04)	0.277
<b>Medical comorbidities</b>						
PVD	1.54 (1.40-1.70)	<0.001	1.32 (1.22-1.43)	<0.001	1.02 (0.92-1.14)	0.657
Previous MI	1.03 (0.95-1.12)	0.429	1.88 (1.72-2.06)	<0.001	0.98 (0.92-1.04)	0.459
COPD	1.44 (1.29-1.61)	<0.001	1.09 (0.989-1.20)	0.085	0.99 (0.90-1.08)	0.761
Malignancy	1.26 (1.09-1.46)	0.002	0.78 (0.64-0.95)	0.015	0.99 (0.83-1.18)	0.918
Mean Charlson score	1.24 (1.20-1.29)	<0.001	1.22 (1.17-1.27)	<0.001	1.03 (0.99-1.08)	0.126
<b>Cardiac risk factors</b>						
Diabetes	1.09 (1.00-1.19)	0.053	0.95 (0.85-1.07)	0.395	1.08 (1.01-1.14)	0.021
Hypertension	1.08 (0.94-1.24)	0.289	1.29 (1.11-1.50)	<0.001	1.05 (0.97-1.11)	0.130
Hyperlipidemia	0.81 (0.72-0.91)	<0.001	0.93 (0.84-1.03)	0.153	0.99(0.94-1.05)	0.867
History smoking	1.10 (1.01-1.21)	0.033	1.01 (0.92-1.10)	0.909	1.03 (0.98-1.08)	0.313
<b>Cardiac status/testing</b>						
Native stenosis*						
LM	1.27 (1.12-1.44)	<0.001	1.09 (0.99-1.21)	0.088	0.89 (0.79-1.01)	0.063
Prox LAD	1.11 (1.03-1.19)	0.009	1.05 (0.97-1.12)	0.220	1.16 (1.09-1.23)	<0.001
Mid/distal LAD	0.99 (0.93-1.06)	0.745	1.11 (1.04-1.20)	0.004	1.20 (1.13-1.28)	<0.001
Circumflex	1.17 (1.09-1.27)	<0.001	1.16 (1.07-1.27)	<0.001	1.24 (1.17-1.32)	<0.001
RCA	1.29 (1.21-1.39)	<0.001	1.15 (1.06-1.24)	<0.001	1.33(1.27-1.39)	<0.001
Previous CABG	0.85 (0.76-0.95)	0.005	1.17 (1.08-1.27)	<0.001	0.71 (0.64-0.78)	<0.001
LV function						
≥50%	referent		referent		referent	
≤34%	1.93 (1.62-2.30)	<0.001	1.45 (1.30-1.61)	<0.001	0.83 (0.74-0.93)	0.002
35%-49%	1.36 (1.20-1.53)	<0.001	1.27 (1.17-1.38)	<0.001	0.90 (0.82-0.99)	0.038
NA	0.96 (0.86-1.07)	0.482	1.15 (1.04-1.28)	0.008	0.91 (0.83-1.00)	0.056
Exercise ECG risk						
Low risk	referent		referent		referent	
High risk	1.01 (0.87-1.16)	0.942	1.01 (0.84-1.23)	0.885	1.10(1.02-1.18)	0.012
Uninterpretable	1.33 (1.11-1.58)	0.002	0.94 (0.81-1.09)	0.384	0.90 (0.77-1.04)	0.158
NA	1.71 (1.51-1.93)	<0.001	1.42 (1.28-1.57)	<0.001	1.19(1.11-1.27)	<0.001
Functional imaging risk						
Low risk	referent		referent		referent	
High risk	1.11 (0.99-1.24)	0.075	0.97 (0.87-1.07)	0.501	1.00 (0.92-1.09)	0.998
Unknown/NA	1.14 (1.03-1.27)	0.014	1.03 (0.95-1.12)	0.506	1.12 (1.04-1.21)	0.002
<b>CCS class</b>						
0	referent		referent		referent	
1	0.86 (0.77-0.97)	0.011	0.97 (0.84-1.12)	0.704	1.13 (1.01-1.27)	0.036
2	0.82 (0.73-0.91)	<0.001	1.08 (0.94-1.23)	0.286	1.25(1.15-1.35)	<0.001
3	0.88 (0.79-0.99)	0.027	1.16 (1.04-1.30)	0.006	1.46 (1.34-1.58)	<0.001
4	0.96 (0.79-1.18)	0.724	1.28 (1.06-1.53)	0.009	1.39 (1.16-1.65)	<0.001
<b>Physician-level factors</b>						
Referral physician						
Specialty						
GP/FP	referent		referent		referent	
Cardiology	1.00 (0.91-1.10)	1.000	1.10 (1.01-1.19)	0.022	1.03 (0.96-1.11)	0.368
Internal medicine	0.98 (0.82-1.16)	0.784	1.07 (0.94-1.21)	0.323	1.02 (0.93-1.13)	0.685
Other	1.16 (0.98-1.36)	0.083	1.25 (1.11-1.42)	<0.001	0.97 (0.85-1.10)	0.612

Missing	1.06 (0.96-1.16)	0.278	1.10 (0.97-1.25)	0.150	1.10 (1.03-1.18)	0.007
<b>Hospital-level factors</b>						
Average annual volume per hospital						
Mean Cath volume	1.00 (1.00-1.00)	0.260	1.00 (1.00-1.00)	0.002	1.04 (0.87-1.24)	0.910
Hospital type						
CABG, PCI and Cath	referent		referent		referent	
Cath only	1.12 (0.97-1.29)	0.126	0.97 (0.83-1.12)	0.644	1.04 (0.87-1.24)	0.665
PCI and Cath only	0.92 (0.79-1.08)	0.313	1.14 (0.78-1.67)	0.499	1.13 (0.95-1.34)	0.167

HR=Hazard ratio, CI = confidence interval

CABG= coronary artery bypass grafting; COPD = chronic obstructive pulmonary disease;

MI = myocardial infarction; PCI = percutaneous coronary intervention;

GP/FP=practitioner/family practitioner

PVD = peripheral vascular disease, LM = left main, LAD = left anterior descending,

RCA = right coronary artery, LV = left ventricular, ECG = electrocardiogram,

CCS= Canadian Cardiovascular Society, Cath = catheterization, GP/FP = general

\*Income quintile: 1=lowest, 5 = highest;

† LM if  $\geq 50\%$  stenosis, Prox LAD if  $\geq 70\%$  stenosis, Mid/distal LAD if  $\geq 70\%$  stenosis,

Circumflex if  $\geq 70\%$  stenosis, RCA if  $\geq 70\%$  stenosis

NA implies not done or missing

**Appendix Table 2: Medication Use in Propensity Matched Cohort > 65 years**

<b>Medication</b>	<b>Total (n=13,535)</b>	<b>Medical therapy patients (n=6,753)</b>	<b>Revascularized patients (n=6,782)</b>	<b>p-value</b>
<b>Medications within 3 months pre-index, %</b>				
ACE or ARB	69.0	68.9	69.1	0.781
Anti-platelet agents (clopidogrol)	17.4	16.3	18.5	<0.001
β blockers	68.0	66.8	69.1	0.004
Calcium Channel blockers	38.6	38.3	38.9	0.471
Nitrates	45.5	41.5	49.6	<0.001
Statins	75.3	75.4	75.1	0.607
<b>Medications within 3 months post-index, %</b>				
ACE or ARB	71.7	71.6	71.8	0.757
Anti-platelet agents (clopidogrol)	47.2	19.7	74.5	<0.001
β blockers	68.0	66.8	69.1	<0.001
Calcium Channel blockers	39.9	41.5	38.2	<0.001
Nitrates	32.5	35.0	30.0	<0.001
Statins	83.6	81.7	85.4	<0.001
<b>Medications within 12 months post-index, %</b>				
ACE or ARB	81.4	80.9	81.9	0.826
Anti-platelet agents (clopidogrol)	52.3	27.1	77.3	<0.001
β blockers	76.6	76.3	76.9	0.443
Calcium Channel blockers	47.1	48.5	45.8	<0.001
Nitrates	45.0	47.1	42.8	<0.001
Statins	92.7	91.3	94.1	<0.001

ACE= angiotension converting enzyme inhibitors; ARB= angiotension receptor blockers

**Appendix Table 3: Baseline Characteristics of Propensity Matched COURAGE Cohort**

<b>Covariate</b>	<b>Medical therapy patients (n=4,838)</b>	<b>Revascularized patients (n=4,838)</b>	<b>Total (n=9,676)</b>	<b>Excluded Patients (n=29,455)</b>	<b>p-value*</b>
<b>Treatment</b>					
CABG	0.0	21.0	10.5	25.0	<0.001
PCI	0.0	79.0	39.5	40.0	
Medical therapy	100.0	0.0	50.0	35.0	
<b>Demographics</b>					
Mean age, yrs	65.77 ± 10.17	65.87 ± 10.15	65.82 ± 10.16	66.05 ± 10.35	0.054
Male gender	72.6	72.5	72.5	76.1	0.0
Rural	12.1	12.4	12.2	15.2	
Income					
1	18.8	19.3	19.0	18.4	
2	20.0	19.9	20.0	20.6	
3	20.3	20.2	20.3	20.2	
4	20.7	20.7	20.7	20.7	
5	20.1	19.9	20.0	20.1	
<b>Medical comorbidities</b>					
PVD	8.4	8.3	8.4	9.7	
Previous MI	29.1	28.1	28.6	28.0	
COPD	6.2	6.4	6.3	7.1	
Mean Charlson score	0.80 ± 1.22	0.81 ± 1.28	0.81 ± 1.25	0.88 ± 1.36	
<b>Cardiac risk factors</b>					
Diabetes	45.0	45.5	45.2	43.5	0.0
Hypertension	87.9	88.7	88.3	86.2	<0.001
Hyperlipidemia	82.9	83.3	83.1	80.1	<0.001
History smoking	31.3	31.3	31.3	31.7	0.5
<b>Cardiac status/testing</b>					
Native stenosis**					
LM	0.0	0.0	0.0	17.3	<0.001
Prox LAD	26.8	25.8	26.3	35.4	<0.001
Mid/distal LAD	49.6	49.1	49.3	49.7	0.515
Circumflex	48.2	48.7	48.5	52.5	<0.001
RCA	58.1	58.4	58.2	61.6	<0.001
Had previous CABG					
Yes	16.3	15.3	15.8	18.7	<0.001
No	83.6	84.6	84.1	81.2	
Unknown	0.1	0.1	0.1	0.1	
LV function					
NA	0.0	0.0	0.0	37.7	<0.001
<=34%	0.0	0.0	0.0	6.7	
35%-49%	16.4	15.4	15.9	11.7	
≥50%	83.6	84.6	84.1	43.9	
Exercise ECG risk					
High risk	33.6	33.1	33.4	25.8	<0.001
Low risk	37.2	38.2	37.7	17.4	
Uninterpretable	5.9	6.1	6.0	4.5	
NA	23.2	22.6	22.9	52.3	
Functional imaging risk					
High risk	41.7	41.9	41.8	28.8	<0.001
Low risk	35.6	35.4	35.5	19.0	
Unknown/NA	22.7	22.7	22.7	52.2	
<b>CCS class</b>					
0	14.7	15.6	15.2	16.9	<0.001
1	12.3	12.9	12.6	14.5	
2	27.4	26.7	27.1	41.9	
3	45.6	44.8	45.2	23.0	
<b>Physician-level factors</b>					

*Referral physician*

Specialty

Cardiology	43.4	47.0	45.2	45.2
Internal medicine	9.5	9.1	9.3	9.3
GP/FP	27.1	24.7	25.9	25.9

**Hospital-level factors**

Average annual volume per hospital

Mean Cath volume	4,143.37 ± 1,679.79	4,139.48 ± 1,701.16	4,141.43 ± 1,690.42	4,076.20 ± 1,698.09	0.001
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Hospital type

Cath only	12.0	14.0	13.0	13.3	<0.001
PCI and Cath only	5.7	4.5	5.1	6.4	
CABG, PCI and Cath	82.2	81.5	81.9	80.4	

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All covariates are presented as percentages, with the exception of mean values.

Mean values include standard deviation.

CABG= coronary artery bypass grafting; COPD = chronic obstructive pulmonary disease;

MI = myocardial infarction; PCI = percutaneous coronary intervention;

GP/FP=practitioner/family practitioner

PVD = peripheral vascular disease, LM = left main, LAD = left anterior descending,

RCA = right coronary artery, LV = left ventricular, ECG = electrocardiogram,

CCS= Canadian Cardiovascular Society, Cath = catheterization, GP/FP = general

\* p-value for comparison of COURAGE subgroup to excluded patients.

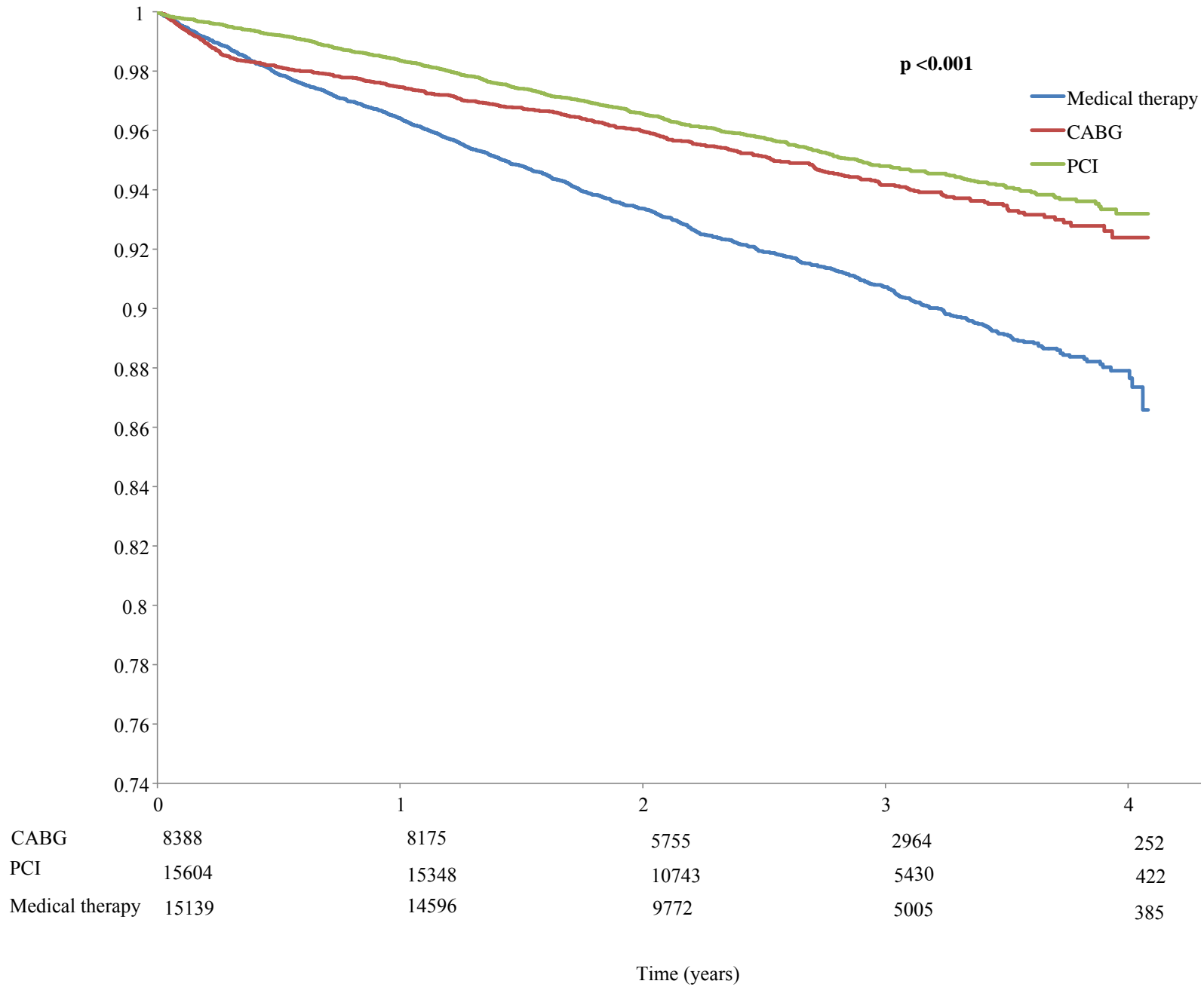
\*\*Income quintile: 1=lowest, 5 = highest;

† LM if ≥50% stenosis, Prox LAD if ≥70% stenosis, Mid/distal LAD if ≥70% stenosis,

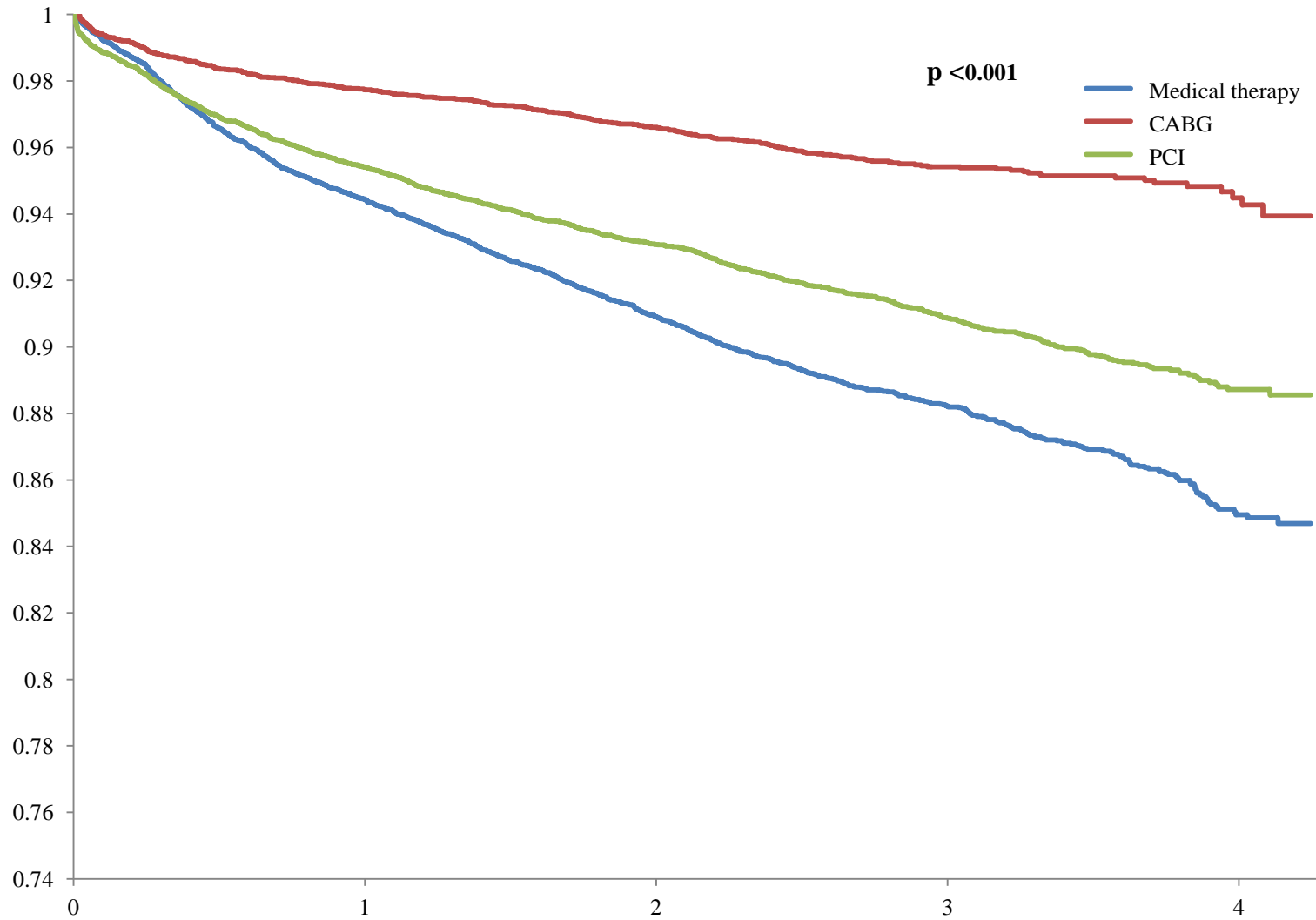
Circumflex if ≥70% stenosis, RCA if ≥70% stenosis

NA implies not done or missing

Appendix Figure 1a: Unadjusted KM Curves for Survival



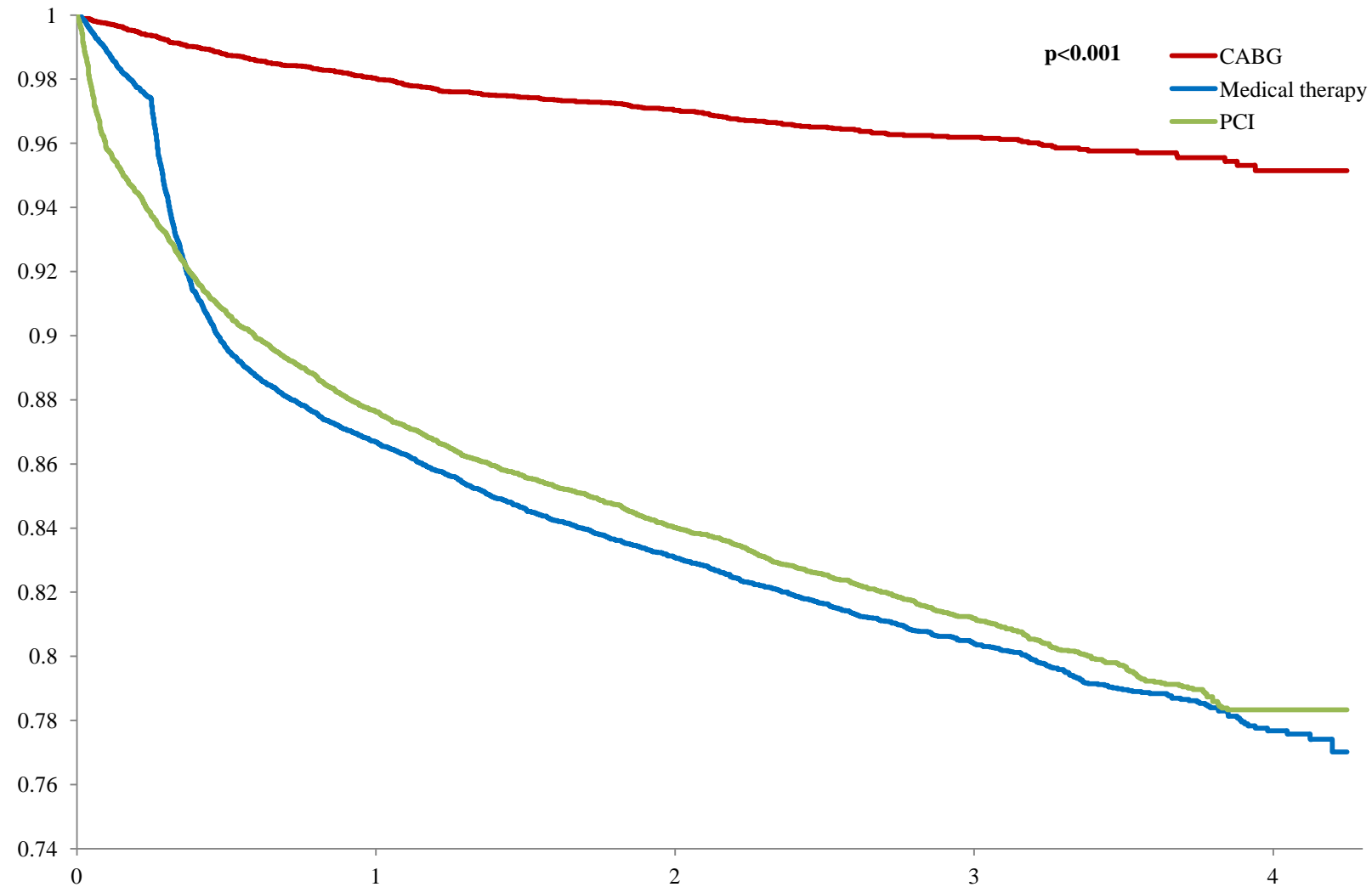
Appendix Figure 1b: Unadjusted KM Curves for Myocardial Infarction



CABG	8388	7993	5781	3044	466
PCI	15604	14708	10782	5669	950
Medical therapy	15139	13913	9717	5195	972

Time (years)

Appendix Figure 1c: Unadjusted KM Curves for Repeat Revascularization

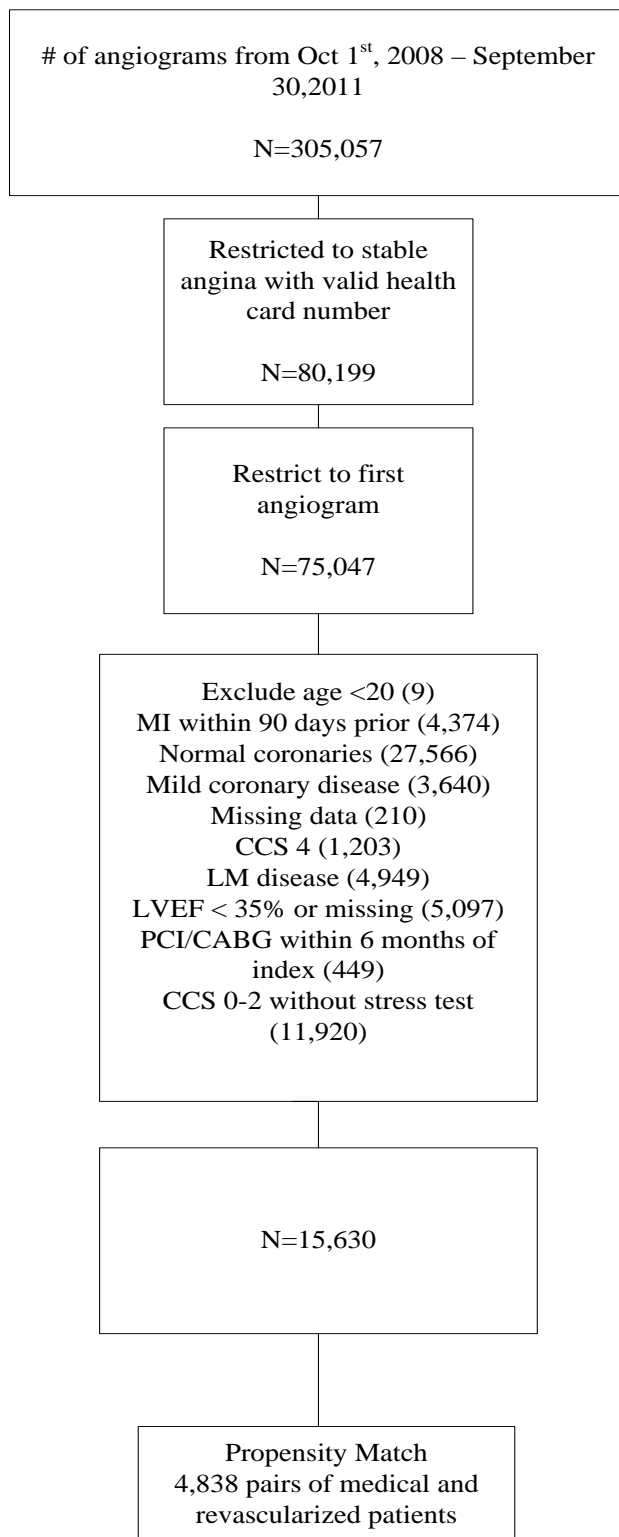


CABG	8388	8007	5776	3049	454
PCI	15604	13460	9642	5004	806
Medical therapy	15319	12670	8971	4695	879

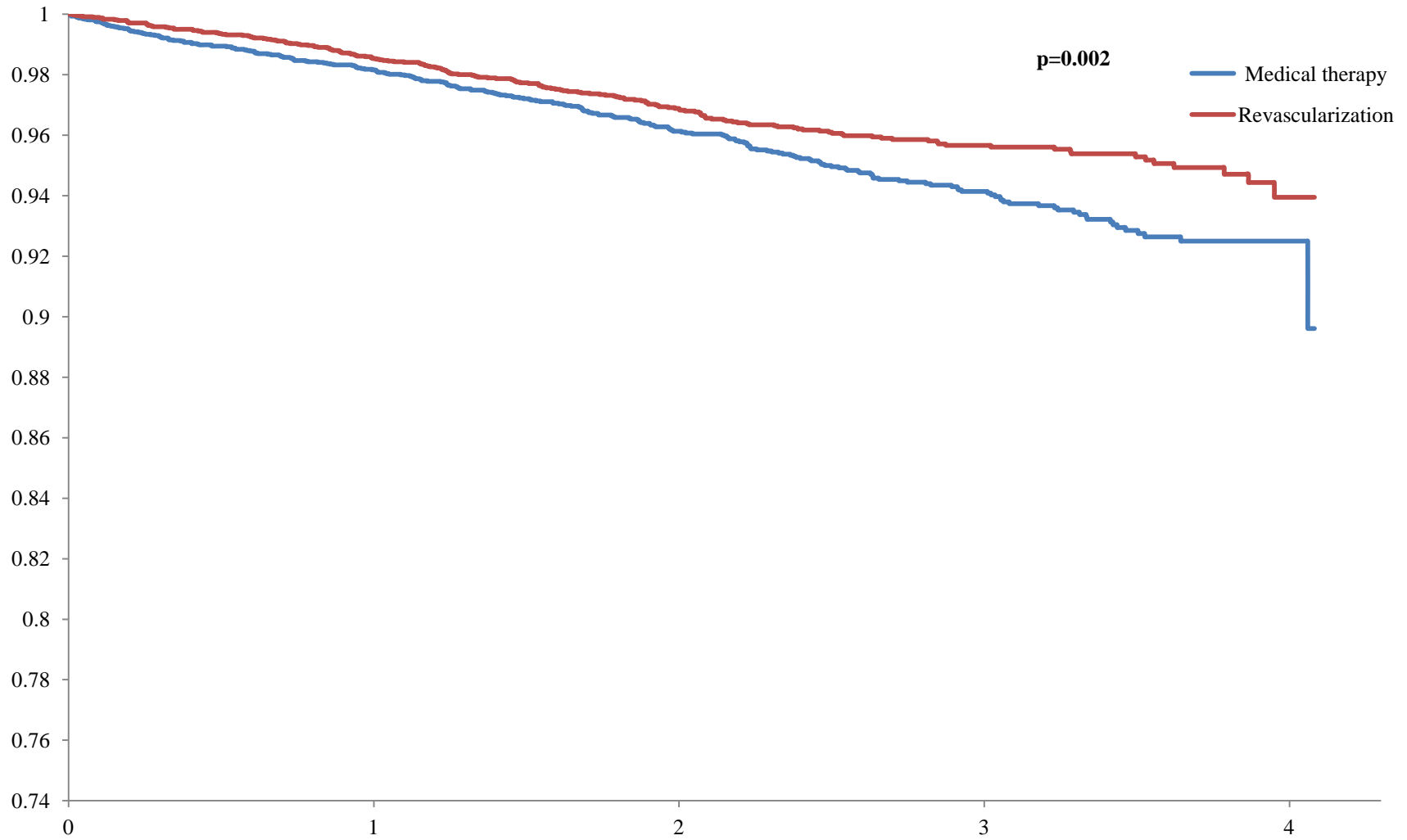
Time (years)



Appendix Figure 2: COURAGE Cohort



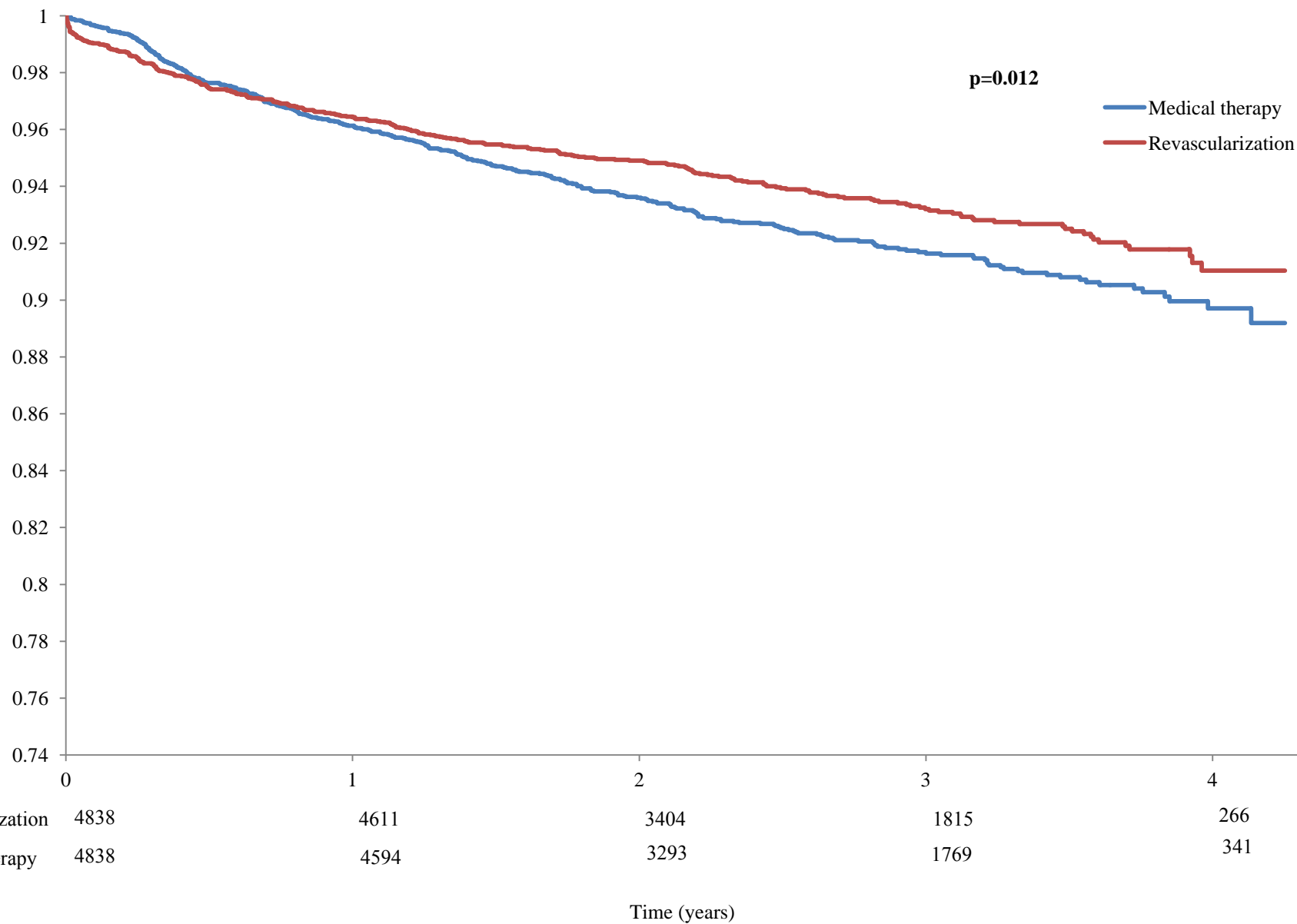
Appendix Figure 3a: COURAGE Propensity-Matched Cohort KM Curves for Death



Revascularization	4838	4767	3386	1738	117
Medical therapy	4838	4749	3224	1694	140

Time (years)

Appendix Figure 3b: COURAGE Propensity-Matched Cohort KM Curves for Myocardial Infarction



Appendix Figure 3c: COURAGE Propensity-Matched Cohort KM Curves for Repeat Revascularization

