

**Supplemental Table 1. Multivariate Predictors of Survival in Propensity Matched
Decompensated Patients (n=162); AJCC – American Joint Committee on Cancer; MW -
Midwest**

	HR	95% CI	p value
Sorafenib	0.62	0.45-0.87	0.006
AJCC Stage IV (vs. III)	1.48	1.05-2.08	0.027
Urban setting	1.42	0.82-2.47	0.21
Seen at a teaching center	1.53	0.97-2.41	0.067
Seen at a National Cancer Institute designated center	0.75	0.46-1.23	0.25
Seen at a transplant center	0.59	0.38-0.92	0.019
Charlson Comorbidity Index	0.94	0.83-1.08	0.38
Age	1.00	0.98-1.01	0.54
Northeast (vs. MW)	1.46	0.57-3.77	0.43
South (vs. MW)	1.55	0.63-3.81	0.34
West (vs. MW)	1.83	0.77-4.36	0.17
Male gender	1.01	0.71-1.45	0.95
Black (vs. White)	0.93	0.51-1.69	0.80
Other (vs. White)	1.27	0.75-2.17	0.38

Supplemental Table 2. Multivariate Predictors of Survival in Sorafenib Treated Patient

(n=228); AJCC – American Joint Committee on Cancer; MW - Midwest

	HR	95% CI	p value
AJCC Stage IV (vs. III)	1.23	0.93-1.62	0.15
Urban setting	2.12	1.32-3.41	0.002
Seen at a teaching center	0.72	0.46-1.14	0.16
Seen at a National Cancer Institute designated center	0.91	0.53-1.54	0.72
Seen at a transplant center	0.88	0.58-1.33	0.54
Charlson Comorbidity Index	1.03	0.92-1.16	0.59
Age	0.99	0.98-1.01	0.35
Presence of hepatic decompensation	1.29	0.94-1.76	0.11
Northeast (vs. MW)	1.59	0.75-3.33	0.22
South (vs. MW)	1.09	0.54-2.19	0.81
West (vs. MW)	1.14	0.59-2.20	0.69
Male gender	1.15	0.83-1.61	0.40
Black (vs. White)	1.13	0.69-1.85	0.64
Other (vs. White)	1.15	0.77-1.70	0.50

Supplemental Table 3. Sensitivity Analysis of ECOG score- Multivariate hazard with 95% confidence interval with different distributions of ECOG 3-4 status in treated and control patients. Light gray shading indicates significant survival benefit associated with sorafenib therapy. Dark gray shading indicates a significantly worse survival associated with sorafenib therapy.

Hazard of ECOG 3-4: 2.0		Prevalence of ECOG 3-4 for Sorafenib Treated Patients					
		0	0.1	0.2	0.3	0.4	0.5
Prevalence of ECOG 3-4 for Control Patients	0	0.67 (0.57, 0.78)	0.57 (0.47, 0.68)	0.49 (0.39, 0.6)	0.41 (0.31, 0.52)	0.33 (0.23, 0.44)	0.26 (0.16, 0.37)
	0.1	0.77 (0.67, 0.88)	0.67 (0.57, 0.78)	0.58 (0.48, 0.69)	0.5 (0.4, 0.61)	0.43 (0.33, 0.54)	0.36 (0.26, 0.47)
	0.2	0.85 (0.75, 0.96)	0.76 (0.66, 0.87)	0.67 (0.57, 0.78)	0.59 (0.49, 0.7)	0.52 (0.42, 0.63)	0.45 (0.35, 0.56)
	0.3	0.93 (0.83, 1.04)	0.84 (0.74, 0.95)	0.75 (0.65, 0.86)	0.67 (0.57, 0.78)	0.6 (0.5, 0.71)	0.53 (0.43, 0.64)
	0.4	1.01 (0.91, 1.12)	0.91 (0.81, 1.02)	0.82 (0.72, 0.93)	0.74 (0.64, 0.85)	0.67 (0.57, 0.78)	0.6 (0.5, 0.71)
	0.5	1.08 (0.98, 1.19)	0.98 (0.88, 1.09)	0.89 (0.79, 1)	0.81 (0.71, 0.92)	0.74 (0.64, 0.85)	0.67 (0.57, 0.78)
	0.6	1.14 (1.04, 1.25)	1.04 (0.94, 1.15)	0.96 (0.86, 1.07)	0.88 (0.78, 0.99)	0.8 (0.7, 0.91)	0.73 (0.63, 0.84)
	0.7	1.2 (1.1, 1.31)	1.11 (1.01, 1.22)	1.02 (0.92, 1.13)	0.94 (0.84, 1.05)	0.86 (0.76, 0.97)	0.8 (0.7, 0.91)
	0.8	1.26 (1.16, 1.37)	1.16 (1.06, 1.27)	1.08 (0.98, 1.19)	1 (0.9, 1.11)	0.92 (0.82, 1.03)	0.85 (0.75, 0.96)
	0.9	1.31 (1.21, 1.42)	1.22 (1.12, 1.33)	1.13 (1.03, 1.24)	1.05 (0.95, 1.16)	0.98 (0.88, 1.09)	0.91 (0.81, 1.02)
	1	1.36 (1.26, 1.47)	1.27 (1.17, 1.38)	1.18 (1.08, 1.29)	1.1 (1.0, 1.21)	1.03 (0.93, 1.14)	0.96 (0.86, 1.07)

