

# MI Paper Tables

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Results using 1000 simulations, 10 MI trueTreatment approx -0.69, trueEcog appox 0.4

```
os1 <- coxph(Surv(cmonth, dead) ~ treat + genderf +  
reth_black + reth_hisp + reth_oth + practypec + b.ecogvalue + smokey + dgradeh + surgery + site_ureter  
+ site_renal + site_urethra + age + var1 + var2, data=sdat.c, x=T)
```

## Full Model Results

Treat

Table 1: Treatment

	Bias			MSE		
	Low	Medium	High	Low	Medium	High
ORACLE	-0.0056	-0.0029	-0.0031	0.0053	0.0052	0.0053
<b>MCAR</b>						
CC	-0.0072	-0.0041	-0.0057	0.0066	0.0107	0.0218
MICE	-0.0017	0.0074	0.0157	0.0053	0.0055	0.0060
RF	-0.0009	0.0130	0.0282	0.0053	0.0055	0.0064
DAE	0.0123	0.0502	0.0840	0.0056	0.0080	0.0126
<b>MAR</b>						
CC	-0.0049	-0.0068	-0.0119	0.0071	0.0128	0.0254
MICE	-0.0003	0.0185	0.0390	0.0054	0.0060	0.0072
RF	0.0002	0.0219	0.0459	0.0054	0.0062	0.0081
DAE	0.0263	0.0769	0.1061	0.0063	0.0121	0.0175
<b>MNAR 1</b>						
CC	-0.0046	-0.0039	-0.0114	0.0072	0.0135	0.0288
MICE	0.0370	0.0635	0.0820	0.0067	0.0095	0.0120
RF	0.0380	0.0714	0.0815	0.0067	0.0105	0.0119
DAE	0.0526	0.0894	0.1116	0.0086	0.0146	0.0187
<b>MNAR 2</b>						
CC	-0.0038	-0.0070	-0.0106	0.0070	0.0128	0.0264
MICE	0.0182	0.0464	0.0640	0.0057	0.0076	0.0095
RF	0.0173	0.0537	0.0735	0.0057	0.0082	0.0107
DAE	0.0364	0.0831	0.1113	0.0068	0.0130	0.0187

Table 2: Treatment

	SE			Coverage		
	Low	Medium	High	Low	Medium	High
ORACLE	0.0513	0.0512	0.0512	0.942	0.957	0.9590
<b>MCAR</b>						
CC	0.0568	0.0732	0.1028	0.941	0.949	0.9460
MICE	0.0517	0.0528	0.0544	0.945	0.954	0.9460
RF	0.0516	0.0524	0.0535	0.943	0.952	0.9140
DAE	0.0516	0.0524	0.0527	0.933	0.853	0.6318
<b>MAR</b>						
CC	0.0591	0.0796	0.1124	0.950	0.950	0.9540
MICE	0.0520	0.0533	0.0549	0.953	0.939	0.8920
RF	0.0518	0.0536	0.0563	0.951	0.933	0.8800
DAE	0.0545	0.0598	0.0605	0.928	0.769	0.5950
<b>MNAR 1</b>						
CC	0.0600	0.0822	0.1176	0.945	0.948	0.9420
MICE	0.0514	0.0521	0.0526	0.887	0.762	0.6430
RF	0.0512	0.0518	0.0525	0.879	0.705	0.6480
DAE	0.0564	0.0625	0.0619	0.868	0.724	0.5690
<b>MNAR 2</b>						
CC	0.0591	0.0799	0.1151	0.947	0.955	0.9510
MICE	0.0517	0.0524	0.0533	0.929	0.874	0.7870
RF	0.0515	0.0520	0.0527	0.928	0.834	0.7240
DAE	0.0532	0.0594	0.0619	0.900	0.739	0.5760

# ECOG

Table 3: ECOG

	Bias			MSE		
	Low	Medium	High	Low	Medium	High
ORACLE	0.0028	0.0025	0.0020	0.0011	0.0011	0.0011
<b>MCAR</b>						
CC	0.0035	0.0042	0.0075	0.0014	0.0024	0.0046
MICE	-0.0020	-0.0095	-0.0211	0.0013	0.0017	0.0025
RF	-0.0002	-0.0103	-0.0277	0.0012	0.0017	0.0030
DAE	-0.0109	-0.0435	-0.0807	0.0018	0.0060	0.0143
<b>MAR</b>						
CC	0.0018	0.0015	0.0062	0.0013	0.0021	0.0039
MICE	-0.0062	-0.0252	-0.0401	0.0012	0.0022	0.0038
RF	0.0000	-0.0061	-0.0122	0.0012	0.0018	0.0033
DAE	-0.0107	-0.0345	-0.0572	0.0015	0.0043	0.0095
<b>MNAR 1</b>						
CC	0.0011	0.0019	0.0081	0.0014	0.0026	0.0053
MICE	-0.0089	-0.0219	-0.0453	0.0014	0.0023	0.0051
RF	-0.0043	-0.0264	-0.0566	0.0013	0.0026	0.0065
DAE	-0.0166	-0.0384	-0.0624	0.0022	0.0069	0.0159
<b>MNAR 2</b>						
CC	0.0034	0.0017	0.0032	0.0015	0.0024	0.0050
MICE	-0.0074	-0.0220	-0.0352	0.0014	0.0022	0.0038
RF	-0.0011	-0.0129	-0.0313	0.0013	0.0019	0.0037
DAE	-0.0153	-0.0450	-0.0728	0.0020	0.0071	0.0162

Table 4: ECOG

	SE			Coverage		
	Low	Medium	High	Low	Medium	High
ORACLE	0.0234	0.0234	0.0234	0.944	0.944	0.9460
<b>MCAR</b>						
CC	0.0259	0.0334	0.0471	0.947	0.938	0.9480
MICE	0.0249	0.0286	0.0327	0.947	0.942	0.9080
RF	0.0247	0.0282	0.0335	0.951	0.938	0.8860
DAE	0.0293	0.0461	0.0618	0.949	0.923	0.8179
<b>MAR</b>						
CC	0.0257	0.0320	0.0433	0.949	0.943	0.9370
MICE	0.0249	0.0285	0.0355	0.944	0.870	0.8290
RF	0.0248	0.0298	0.0414	0.951	0.954	0.9580
DAE	0.0281	0.0438	0.0596	0.949	0.948	0.9290
<b>MNAR 1</b>						
CC	0.0268	0.0355	0.0508	0.956	0.952	0.9460
MICE	0.0256	0.0307	0.0379	0.934	0.901	0.7640
RF	0.0256	0.0318	0.0432	0.948	0.880	0.7670
DAE	0.0352	0.0614	0.0849	0.974	0.973	0.9650
<b>MNAR 2</b>						
CC	0.0265	0.0345	0.0493	0.943	0.942	0.9520
MICE	0.0254	0.0299	0.0370	0.941	0.904	0.8440
RF	0.0252	0.0301	0.0383	0.942	0.943	0.8800
DAE	0.0332	0.0589	0.0815	0.962	0.975	0.9540

## Simple Model Results

Treat

Table 5: Treatment

	Bias			MSE		
	Low	Medium	High	Low	Medium	High
ORACLE	-0.0042	-0.0013	-0.0017	0.0065	0.0062	0.0066
<b>MCAR</b>						
CC	-0.0047	-0.0004	0.0016	0.0079	0.0128	0.0255
MICE	-0.0009	0.0070	0.0136	0.0065	0.0066	0.0073
RF	0.0008	0.0155	0.0311	0.0065	0.0067	0.0079
DAE	0.0272	0.0652	0.0965	0.0059	0.0094	0.0146
<b>MAR</b>						
CC	-0.0031	-0.0010	-0.0061	0.0089	0.0164	0.0318
MICE	-0.0009	0.0149	0.0436	0.0066	0.0071	0.0089
RF	0.0006	0.0195	0.0445	0.0067	0.0074	0.0092
DAE	0.0422	0.0966	0.1272	0.0075	0.0165	0.0229
<b>MNAR 1</b>						
CC	-0.0031	0.0012	-0.0047	0.0092	0.0178	0.0361
MICE	0.0594	0.1056	0.1343	0.0100	0.0177	0.0244
RF	0.0590	0.1094	0.1253	0.0100	0.0185	0.0221
DAE	0.0827	0.1241	0.1390	0.0127	0.0225	0.0255
<b>MNAR 2</b>						
CC	-0.0020	-0.0046	-0.0059	0.0085	0.0163	0.0340
MICE	0.0289	0.0650	0.0901	0.0073	0.0107	0.0147
RF	0.0273	0.0712	0.0972	0.0072	0.0114	0.0159
DAE	0.0580	0.1066	0.1325	0.0087	0.0177	0.0235

Table 6: Treatment

	SE			Coverage		
	Low	Medium	High	Low	Medium	High
ORACLE	0.0564	0.0564	0.0564	0.945	0.955	0.9480
<b>MCAR</b>						
CC	0.0625	0.0803	0.1122	0.946	0.943	0.9530
MICE	0.0568	0.0579	0.0597	0.947	0.952	0.9430
RF	0.0567	0.0575	0.0585	0.947	0.941	0.9120
DAE	0.0499	0.0505	0.0503	0.900	0.743	0.5141
<b>MAR</b>						
CC	0.0662	0.0898	0.1270	0.948	0.944	0.9520
MICE	0.0572	0.0585	0.0599	0.948	0.939	0.8910
RF	0.0570	0.0589	0.0617	0.947	0.930	0.8910
DAE	0.0567	0.0673	0.0629	0.907	0.732	0.4670
<b>MNAR 1</b>						
CC	0.0677	0.0937	0.1341	0.944	0.948	0.9540
MICE	0.0566	0.0570	0.0573	0.821	0.554	0.3520
RF	0.0563	0.0568	0.0574	0.818	0.527	0.4190
DAE	0.0578	0.0674	0.0603	0.718	0.530	0.3570
<b>MNAR 2</b>						
CC	0.0658	0.0906	0.1308	0.952	0.950	0.9600
MICE	0.0567	0.0574	0.0583	0.915	0.797	0.6560
RF	0.0565	0.0570	0.0576	0.913	0.764	0.6030
DAE	0.0536	0.0626	0.0589	0.829	0.622	0.3720



# ECOG

Table 7: ECOG

	Bias			MSE		
	Low	Medium	High	Low	Medium	High
ORACLE	0.0014	0.0020	0.0011	0.0012	0.0012	0.0012
<b>MCAR</b>						
CC	0.0016	0.0020	0.0028	0.0015	0.0026	0.0049
MICE	-0.0026	-0.0083	-0.0200	0.0014	0.0019	0.0027
RF	-0.0010	-0.0090	-0.0260	0.0014	0.0019	0.0032
DAE	-0.0254	-0.0582	-0.0952	0.0023	0.0077	0.0171
<b>MAR</b>						
CC	0.0001	-0.0001	0.0024	0.0014	0.0022	0.0039
MICE	-0.0075	-0.0288	-0.0515	0.0014	0.0025	0.0049
RF	-0.0011	-0.0057	-0.0134	0.0013	0.0020	0.0038
DAE	-0.0273	-0.0574	-0.0867	0.0022	0.0070	0.0154
<b>MNAR 1</b>						
CC	-0.0006	0.0006	0.0032	0.0016	0.0027	0.0053
MICE	-0.0080	-0.0261	-0.0623	0.0015	0.0026	0.0068
RF	-0.0036	-0.0282	-0.0650	0.0015	0.0029	0.0080
DAE	-0.0352	-0.0641	-0.0849	0.0034	0.0113	0.0217
<b>MNAR 2</b>						
CC	0.0018	-0.0007	-0.0002	0.0015	0.0026	0.0050
MICE	-0.0065	-0.0218	-0.0382	0.0014	0.0023	0.0042
RF	-0.0010	-0.0122	-0.0314	0.0014	0.0021	0.0041
DAE	-0.0290	-0.0605	-0.0885	0.0026	0.0094	0.0205

Table 8: ECOG

	SE			Coverage		
	Low	Medium	High	Low	Medium	High
ORACLE	0.0246	0.0246	0.0246	0.948	0.946	0.9440
<b>MCAR</b>						
CC	0.0273	0.0351	0.0491	0.944	0.942	0.9600
MICE	0.0261	0.0297	0.0343	0.945	0.935	0.9200
RF	0.0260	0.0296	0.0353	0.946	0.939	0.8950
DAE	0.0292	0.0467	0.0622	0.890	0.847	0.7555
<b>MAR</b>						
CC	0.0269	0.0332	0.0441	0.949	0.949	0.9410
MICE	0.0260	0.0294	0.0352	0.946	0.840	0.7030
RF	0.0260	0.0317	0.0442	0.958	0.955	0.9530
DAE	0.0283	0.0484	0.0671	0.872	0.869	0.8510
<b>MNAR 1</b>						
CC	0.0283	0.0369	0.0511	0.946	0.958	0.9500
MICE	0.0269	0.0315	0.0371	0.942	0.868	0.6100
RF	0.0271	0.0334	0.0450	0.951	0.868	0.7140
DAE	0.0372	0.0724	0.0949	0.914	0.961	0.9530
<b>MNAR 2</b>						
CC	0.0279	0.0360	0.0508	0.960	0.941	0.9620
MICE	0.0267	0.0309	0.0372	0.947	0.900	0.8250
RF	0.0267	0.0316	0.0409	0.953	0.935	0.8930
DAE	0.0333	0.0637	0.0874	0.907	0.961	0.9370