Supplemental Material for Schold et al.

Supplemental Table S1. Codes for ICEs

ICD Version	ICD Code	Description
Cardiovascular Events		
9	410.x	Acute myocardial infarction
10	I21.x	Acute myocardial infarction
9	427.31	Atrial fibrillation
9	427.32	Atrial flutter
10	I48.91	Unspecified atrial fibrillation
10	I48.92	Unspecified atrial flutter
9	428.x	Heart failure*
10	I50.x	Heart failure*
9	430	Subarachnoid hemorrhage
9	431	Intracerebral hemorrhage
10	I60.9	Nontraumatic subarachnoid hemorrhage, unspecified
10	I61.9	Nontraumatic intracerebral hemorrhage, unspecified
9	433.01	Occlusion and stenosis of basilar artery with cerebral infarction
9	433.11	Occlusion and stenosis of carotid artery with cerebral infarction
9	433.21	Occlusion and stenosis of vertebral artery with cerebral infarction
9	433.31	Occlusion and stenosis of multiple and bilateral precerebral arteries with cerebral infarction
9	433.81	Occlusion and stenosis of other specified precerebral artery with cerebral infarction
9	433.91	Occlusion and stenosis of unspecified precerebral artery with cerebral infarction
9	434.01	Cerebral thrombosis with cerebral infarction
9	434.11	Cerebral embolism with cerebral infarction
9	434.91	Cerebral artery occlusion, unspecified with cerebral infarction
10	I63.x	Cerebral infarction
9	411.1	Intermediate coronary syndrome
10	I20.0	Unstable angina
CMV Infections		
9	078.5	Cytomegaloviral disease
10	B25	Cytomegaloviral disease
10	B25.0	Cytomegaloviral pneumonitis
10	B25.1	Cytomegaloviral hepatitis
10	B25.2	Cytomegaloviral pancreatitis
10	B25.8	Other cytomegaloviral diseases
10	B25.9	Cytomegaloviral disease, unspecified
Other Infections		
9	010.9	PRIMARY TUBERCULOUS INFECTION, UNSPECIFIED, UNSPECIFIED
9	033.9	WHOOPING COUGH, UNSPECIFIED ORGANISM
9	041.12	METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS IN CONDITIONS CLASSIFIED ELSEWHERE AND OF UNSPECIFIED SITE
9	041.49	OTHER AND UNSPECIFIED ESCHERICHIA COLI [E. COLI]
9	041.86	HELICOBACTER PYLORI [H. PYLORI]
9	053.9	MOSQUITO-BORNE HEMORRHAGIC FEVER
9	065.4	WEST NILE FEVER, UNSPECIFIED
9	066.4	CHRONIC VIRAL HEPATITIS B WITHOUT MENTION OF HEPATIC COMA WITHOUT MENTION OF HEPATITIS DELTA
9	070.32	ACUTE HEPATITIS C WITHOUT MENTION OF HEPATIC COMA
9	070.51	CHRONIC HEPATITIS C WITHOUT MENTION OF HEPATIC COMA
9	070.70	UNSPECIFIED VIRAL HEPATITIS C WITHOUT HEPATIC COMA
9	079.6	RESPIRATORY SYNCYTIAL VIRUS (RSV)
9	082.0	SPOTTED FEVERS
9	083.0	MALARIA, UNSPECIFIED
9	084.6	LYME DISEASE

ICD Version	ICD Code	Description
9	322.9	MENINGITIS, UNSPECIFIED
9	323.1	ENCEPHALITIS, MYELITIS, AND ENCEPHALOMYELITIS IN RICKETTSIAL DISEASES CLASSIFIED ELSEWHERE
9	486	PNEUMONIA, ORGANISM UNSPECIFIED
9	573.3	HEPATITIS, UNSPECIFIED
9	995.91	SEPSIS
9	004.9	SHIGELLOSIS, UNSPECIFIED
9	008.45	INTESTINAL INFECTION DUE TO CLOSTRIDIUM DIFFICILE
9	011.9	PULMONARY TUBERCULOSIS, UNSPECIFIED, UNSPECIFIED
9	012.8	OTHER SPECIFIED RESPIRATORY TUBERCULOSIS, UNSPECIFIED EXAMINATION
9	013.00	TUBERCULOUS MENINGITIS, UNSPECIFIED EXAMINATION
9	018.90	UNSPECIFIED MILIARY TUBERCULOSIS, UNSPECIFIED EXAMINATION
9	042	HUMAN IMMUNODEFICIENCY VIRUS (HIV) DISEASE
9	083.0	Q FEVER
10	A03.9	SHIGELLOSIS, UNSPECIFIED
10	A04.7	ENTEROCOLITIS DUE TO CLOSTRIDIUM DIFFICILE
10	A15.0	TUBERCULOSIS OF LUNG
10	A15.7	PRIMARY RESPIRATORY TUBERCULOSIS
10	A15.8	OTHER RESPIRATORY TUBERCULOSIS
10	A17.0	TUBERCULOUS MENINGITIS
10	A19.9	MILIARY TUBERCULOSIS, UNSPECIFIED
10	A37.90	WHOOPING COUGH, UNSPECIFIED SPECIES WITHOUT PNEUMONIA
10	A41.9	SEPSIS, UNSPECIFIED ORGANISM
10	A69.20	LYME DISEASE, UNSPECIFIED
10	A77.0	SPOTTED FEVER DUE TO RICKETTSIA RICKETTSII
10	A91	DENGUE HEMORRHAGIC FEVER
10	A92.0	CHIKUNGUNYA VIRUS DISEASE
10	A92.30	WEST NILE VIRUS INFECTION, UNSPECIFIED
10	B17.10	ACUTE HEPATITIS C WITHOUT HEPATIC COMA
10	B18.1	CHRONIC VIRAL HEPATITIS B WITHOUT DELTA-AGENT
10	B18.2	CHRONIC VIRAL HEPATITIS C
10	B19.20	UNSPECIFIED VIRAL HEPATITIS C WITHOUT HEPATIC COMA
10	B20	HUMAN IMMUNODEFICIENCY VIRUS [HIV] DISEASE
10	B34.9	VIRAL INFECTION, UNSPECIFIED
10	B89	UNSPECIFIED PARASITIC DISEASE
10	B90.9	SEQUELAE OF RESPIRATORY AND UNSPECIFIED TUBERCULOSIS
10	B95.3	Streptococcus pneumoniae as the cause of diseases classified elsewhere
10	B95.62	METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS INFECTION AS THE CAUSE OF DISEASES CLASSIFIED ELSEWHERE
10	B96.0	Mycoplasma pneumoniae [M. pneumoniae] as the cause of diseases classified elsewhere
10	B96.1	Klebsiella pneumoniae [K. pneumoniae] as the cause of diseases classified elsewhere
10	B96.81	HELICOBACTER PYLORI [H. PYLORI] AS THE CAUSE OF DISEASES CLASSIFIED ELSEWHERE
10	B97.4	RESPIRATORY SYNCYTIAL VIRUS AS THE CAUSE OF DISEASES CLASSIFIED ELSEWHERE
10	G03.9	MENINGITIS, UNSPECIFIED
10	G05.3	ENCEPHALITIS AND ENCEPHALOMYELITIS IN DISEASES CLASSIFIED ELSEWHERE
10	J09.X1	Influenza due to identified novel influenza A virus with pneumonia
10	J10.0	Influenza due to other identified influenza virus with pneumonia
10	J10.00	Influenza due to other identified influenza virus with unspecified type of pneumonia
10	J10.01	Influenza due to other identified influenza virus with the same other identified influenza virus pneumonia
10	J10.08	Influenza due to other identified influenza virus with other specified pneumonia
10	J11.0	Influenza due to unidentified influenza virus with pneumonia
10	J11.00	Influenza due to unidentified influenza virus with unspecified type of pneumonia
10	J11.08	Influenza due to unidentified influenza virus with specified pneumonia

ICD Version	ICD Code	Description
10	J12	Viral pneumonia, not elsewhere classified
10	J12.0	Adenoviral pneumonia
10	J12.1	Respiratory syncytial virus pneumonia
10	J12.2	Parainfluenza virus pneumonia
10	J12.3	Human metapneumovirus pneumonia
10	J12.8	Other viral pneumonia
10	J12.81	Pneumonia due to SARS-associated coronavirus
10	J12.89	Other viral pneumonia
10	J12.9	Viral pneumonia, unspecified
10	J13	Pneumonia due to Streptococcus pneumoniae
10	J14	Pneumonia due to Hemophilus influenzae
10	J15	Bacterial pneumonia, not elsewhere classified
10	J15.0	Pneumonia due to Klebsiella pneumoniae
10	J15.1	Pneumonia due to Pseudomonas
10	J15.2	Pneumonia due to staphylococcus
10	J15.20	Pneumonia due to staphylococcus, unspecified
10	J15.21	Pneumonia due to staphylococcus aureus
10	J15.211	Pneumonia due to Methicillin susceptible Staphylococcus aureus
10	J15.212	Pneumonia due to Methicillin resistant Staphylococcus aureus
10	J15.29	Pneumonia due to other staphylococcus
10	J15.3	Pneumonia due to streptococcus, group B
10	J15.4	Pneumonia due to other streptococci
10	J15.5	Pneumonia due to Escherichia coli
10	J15.6	Pneumonia due to other Gram-negative bacteria
10	J15.7	Pneumonia due to Mycoplasma pneumoniae
10	J15.8	Pneumonia due to other specified bacteria
10	J15.9	Unspecified bacterial pneumonia
10	J16	Pneumonia due to other infectious organisms, not elsewhere classified
10	J16.0	Chlamydial pneumonia
10	J16.8	Pneumonia due to other specified infectious organisms
10	J17	Pneumonia in diseases classified elsewhere
10	J18	Pneumonia, unspecified organism
10	J18.0	Bronchopneumonia, unspecified organism
10	J18.1	Lobar pneumonia, unspecified organism
10	J18.2	Hypostatic pneumonia, unspecified organism
10	J18.8	Other pneumonia, unspecified organism
10	J18.9	Pneumonia, unspecified organism
10	J20.0	Acute bronchitis due to Mycoplasma pneumoniae
10	J84.11	Idiopathic interstitial pneumonia
10	J84.111	Idiopathic interstitial pneumonia, not otherwise specified
10	J84.116	Cryptogenic organizing pneumonia
10	J84.117	Desquamative interstitial pneumonia
10	J84.2	Lymphoid interstitial pneumonia
10	J85.1	Abscess of lung with pneumonia
10	T86.13	Kidney transplant infection
10	B97.86	Other viral agents as the cause of diseases classified elsewhere**
9	079.89	Other specified viral infection**
9	079.99	Unspecified viral infection**

*Excluding chronic heart failure codes: ICD9 428.22, 428.32, 428.42 and ICD10 150.22, 150.32 and 150.42

** Includes BK infections

Supplemental Table S2. Model fit statistics

Models	Covariates	AIC	(-2)*Log Likelihood
Deceased Donor			
Base	Recipient, Donor, and Transplant Variables	29,877	29,775
Full, with ICEs	Recipient, Donor, and Transplant Variables + AR + CVD + CMV + other infections	29,812	29,700
Living Donor			
Base	Recipient, Donor, and Transplant Variables	5,133	5,053
Full, with ICEs	Recipient, Donor, and Transplant Variables + AR + CVD + CMV + other infections	5,124	5,034

Abbreviations: AIC, Akaike information criterion; AR, acute rejection; CVD, cardiovascular events; CMV, cytomegalovirus

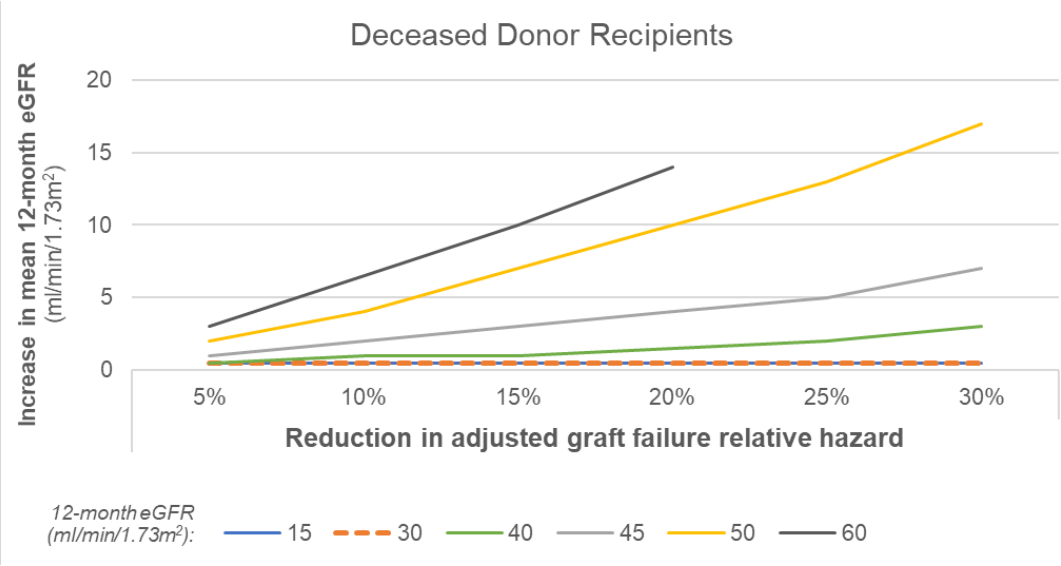
Note: The full model may be considered the best fit model based on the two statistics reported.

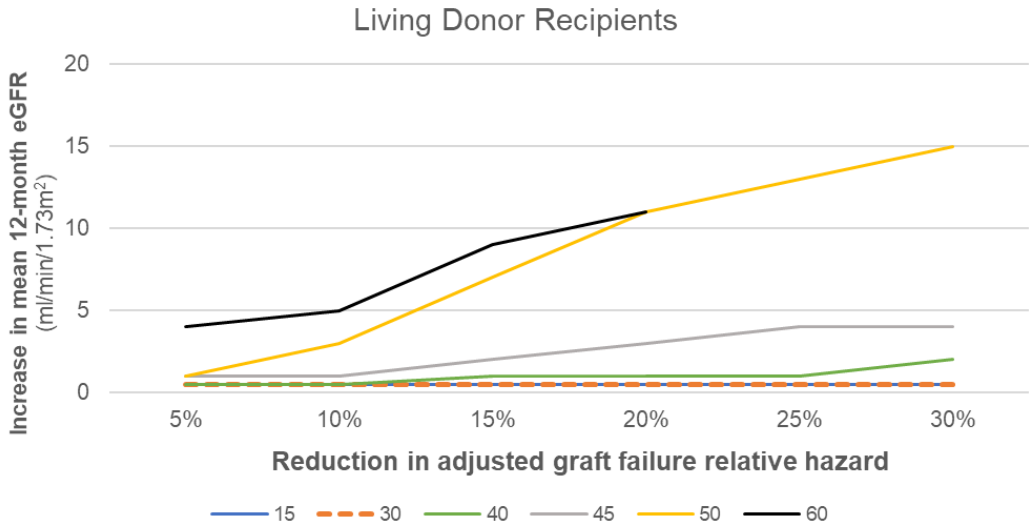
Supplemental Table S3. Listing of adjusted eGFR SHRs by eGFR level. Models with Base and Intercurrent Event Variables

	Deceased Donor Cohort	Living Donor Cohort
eGFR	Adjusted SHR	Adjusted SHR
15	21.17	18.06
16	19.23	16.57
17	17.46	15.22
18	15.86	13.97
19	14.40	12.82
20	13.08	11.77
21	11.88	10.80
22	10.79	9.92
23	9.80	9.10
24	8.90	8.36
25	8.08	7.67
26	7.34	7.04
27	6.66	6.46
28	6.05	5.93
29	5.50	5.45
30	4.99	5.00
31	4.54	4.59
32	4.13	4.21
33	3.76	3.87
34	3.43	3.55
35	3.13	3.26
36	2.86	2.99
37	2.63	2.75
38	2.41	2.53
39	2.23	2.34
40	2.06	2.16
41	1.91	2.00
42	1.78	1.86
43	1.67	1.73
44	1.57	1.62
45	1.48	1.52
46	1.40	1.43
47	1.34	1.35
48	1.28	1.29
49	1.23	1.23
50	1.20	1.19
51	1.16	1.15
52	1.13	1.12
53	1.11	1.09
54	1.09	1.08
55	1.07	1.06
56	1.06	1.05
57	1.04	1.04
58	1.03	1.03
59	1.01	1.01
60	1	1
61	0.99	0.98
62	0.97	0.96

63	0.95	0.94
64	0.94	0.92
65	0.92	0.89
66	0.91	0.86
67	0.89	0.84
68	0.88	0.81
69	0.86	0.78
70	0.85	0.76
71	0.83	0.74
72	0.82	0.71
73	0.81	0.70
74	0.80	0.68
75	0.79	0.67

Supplemental Figure S1. Minimum increase in mean 12-month eGFR associated with reductions in graft failure hazard





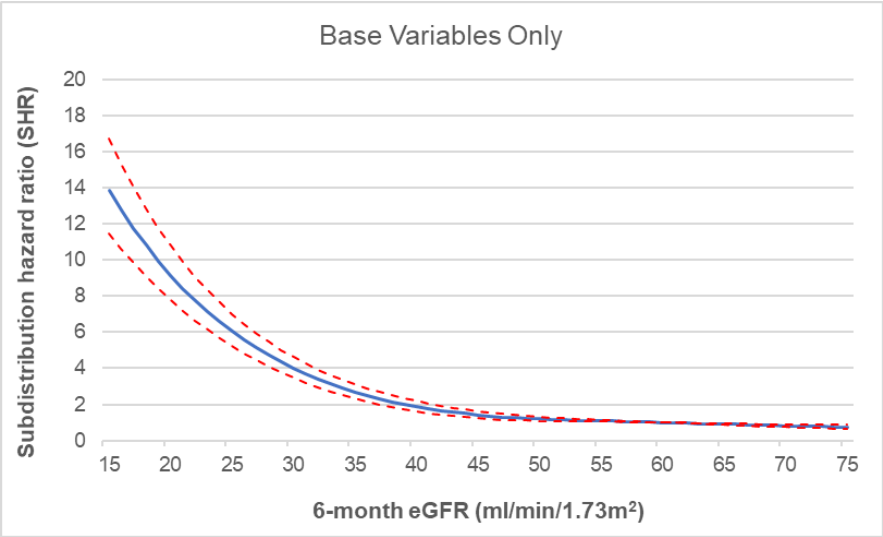
As an example, a cohort of DD recipients with a mean 12-month eGFR of 50 ml/min/1.73m^2 (x-axis) has a long-term SHR of 1.20 (from Table S3). Thus, mean eGFR levels would need to increase by about 4 ml/min/1.73m^2 to achieve a mean reduction in relative hazard of 10% (yellow line, top graph). For that group with mean 12-month eGFR of 50 ml/min/1.73m^2, a 10 ml/min/1.73m^2 increase in 12-month eGFR would be necessary to achieve a 20% reduction. Note that the curves terminate at eGFR levels above which required eGFR increases exceed the range of the prediction models. That is, at a 12-month eGFR of 60 ml/min/1.73m^2 a 25% reduction in the relative hazard of graft failure risk would require an eGFR increase of more than 15 ml/min/1.73m^2, above the maximum of 75 ml/min/1.73m^2 used in the regression models.

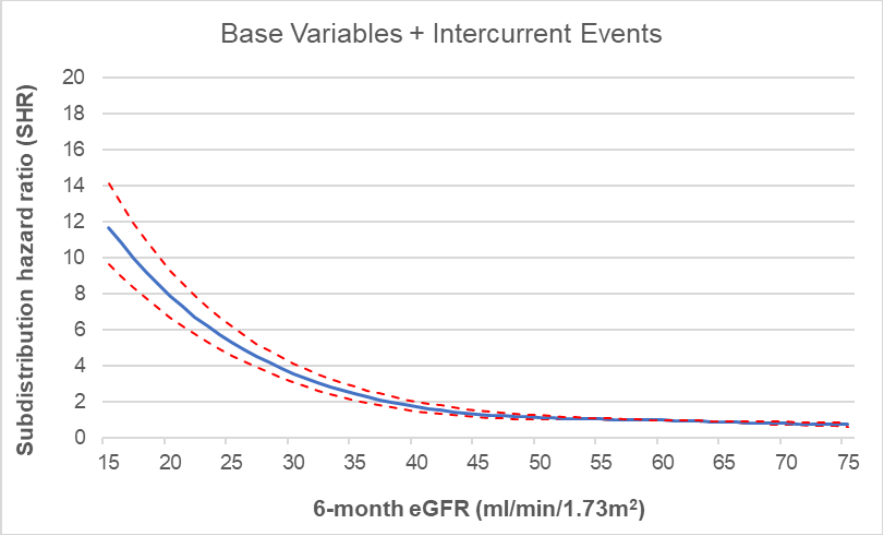
Supplemental Table S4. Regression Results: Adjusted SHRs for the prediction of graft failure using 6-month eGFR in the DD Cohort (N= 25,950)

	Base: Recipient, Donor and Transplant Variables		Full: Base + ICEs	
Category	**SHR**	**P-value**	**SHR**	**P-value**
eGFR – See Figure S3 below				
Recipient Variables				
With prior transplants (Reference: No)				
Yes	**1.125**	0.1888	**1.109**	0.2479
Age (Reference: <30)				
30 to 44	**0.412**	<.0001	**0.418**	<.0001
45 to 59	**0.267**	<.0001	**0.267**	<.0001
60 to 74	**0.181**	<.0001	**0.178**	<.0001
75+	**0.232**	<.0001	**0.230**	<.0001
Gender (Reference: Female)				
Male	**1.077**	0.1440	**1.056**	0.2833
Race (Reference: Non-black)				
Black	**1.565**	<.0001	**1.562**	<.0001
Body Mass Index (BMI) [kg/m2] (polynomial)				
BMI	**0.783**	0.0492	**0.781**	0.0478
BMI^2	**1.008**	0.0698	**1.008**	0.0702
BMI^3	**1.000**	0.0945	**1.000**	0.0970
***LN (Years since Dialysis up to Transplant) (continuous)**				
	1.000	0.9937	**0.990**	0.7780
Cause of ESKD (Reference: Other)				
Polycystic kidney disease	**0.774**	0.0514	**0.786**	0.0700
Diabetes	**1.201**	0.0260	**1.206**	0.0234
Glomerulonephritis	**1.059**	0.4477	**1.071**	0.3654
Hypertension	**1.055**	0.5082	**1.083**	0.3168
Calculated PRA (Reference:80+/Unknown)				
<80	**0.969**	0.6779	**0.991**	0.9031
Donor Variables				
Age (Reference : >60)				
<=10	**0.798**	0.3026	**0.795**	0.2931
11-20	**0.920**	0.5173	**0.934**	0.5935
21-40	**0.865**	0.1450	**0.866**	0.1461
41-60	**0.849**	0.0596	**0.844**	0.0517
Gender (Reference: Female)				
Male	**0.999**	0.9781	**0.999**	0.9883
Race (Reference: Non-black)				
Black	**1.309**	<.0001	**1.295**	<.0001
LN (Donor Weight) (continuous)				
	1.007	0.9385	**1.000**	0.9973
History of Hypertension (Reference: No)				
Yes	**1.142**	0.0228	**1.157**	0.0120
Unknown	**0.828**	0.6145	**0.766**	0.4751
Cytomegalovirus (CMV) status (Reference: Negative)				
Positive	**1.005**	0.9185	**1.000**	0.9992
Unknown	**0.625**	0.3522	**0.565**	0.2668
Cause of Death (Reference: Other)				
Anoxia	**0.954**	0.7366	**0.949**	0.7127
Central Nervous System Tumor	**0.583**	0.2379	**0.576**	0.2252
Cerebrovascular Accident	**0.926**	0.5879	**0.925**	0.5889
Head Trauma	**0.996**	0.9797	**0.990**	0.9418
History of Diabetes (Reference: No)				

Yes	**1.430**	<.0001	**1.462**	<.0001
Unknown	**1.783**	0.1302	**1.930**	0.0718
Protein in Urine (Reference: No)				
Yes	**1.050**	0.3069	**1.045**	0.3607
Unknown	**0.523**	0.0851	**0.514**	0.0814
Pre-Donation Serum Creatinine [mg/dl] (continuous)				
	1.000	0.9938	**1.004**	0.8869
Transplant Variables				
Year of Transplant (Reference: 2012)				
2013	**1.041**	0.5140	**1.052**	0.4159
2014	**1.003**	0.9627	**1.002**	0.9773
2015	**0.978**	0.7732	**0.957**	0.5627
Number of HLA Mismatches (Reference: 6)				
<5	**0.848**	0.0117	**0.871**	0.0341
5	**0.851**	0.0029	**0.864**	0.0068
Unknown	**0.972**	0.9057	**1.003**	0.9889
CIT (Reference: >40)				
<=20	**1.024**	0.8844	**1.000**	0.9996
>20-40	**0.924**	0.6345	**0.899**	0.5215
Unknown	**1.218**	0.5135	**1.180**	0.5776
DGF Status (Reference: No)				
Yes	**1.027**	0.6150	**1.036**	0.5146
Received on Pump (Reference: No)				
Yes	**0.899**	0.0407	**0.890**	0.0268
Intercurrent Events -Discharge to 6 Months				
AR events (Reference: No)				
Yes	**-**	**-**	**1.722**	<.0001
Unknown	**-**	**-**	**1.022**	0.8919
CVD Events (Reference: No)				
Yes	**-**	**-**	**1.285**	<.0001
CMV Infections (Reference: No)				
Yes	**-**	**-**	**1.165**	0.0459
Other Infections (Reference: No)				
Yes	**-**	**-**	**1.211**	0.0003

Supplemental Figure S2. Regression results: Relative sub-distribution hazard ratio by 6-month eGFR post transplantation in the DD Cohort (N=25,950)



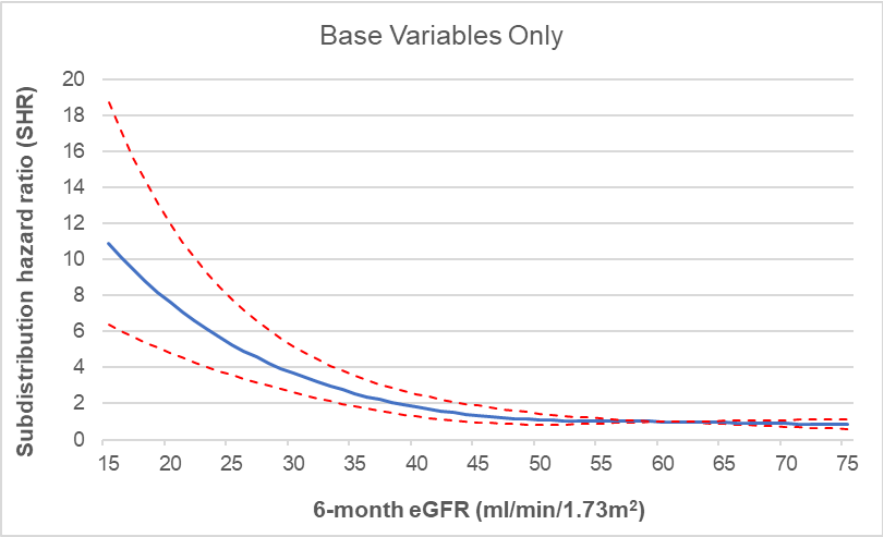


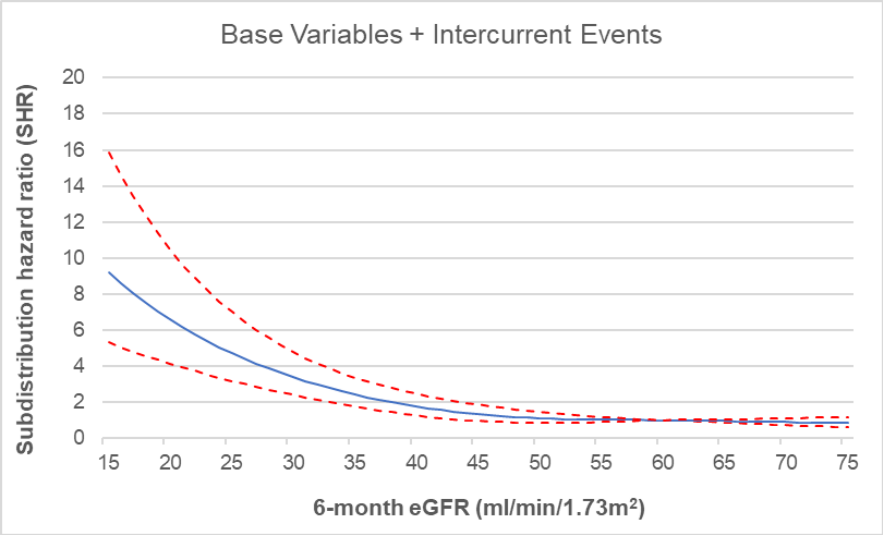
Supplemental Table S5. Regression Results: Adjusted SHRs for the prediction of graft failure using 6-month eGFR in the LD Cohort (N=7,645)

	Base: Recipient, Donor and Transplant Variables		Full: Base + ICEs	
Category	**SHR**	**P-value**	**SHR**	**P-value**
eGFR – See Figure S4 below				
Recipient Variables				
With prior transplants (Reference: No)				
Yes	**1.167**	0.3812	**1.143**	0.4504
Age (Reference: <30)				
30 to 44	**0.418**	<.0001	**0.413**	<.0001
45 to 59	**0.200**	<.0001	**0.192**	<.0001
60 to 74	**0.222**	<.0001	**0.213**	<.0001
75+	**0.195**	0.0008	**0.172**	0.0005
Gender (Reference: Female)				
Male	**0.811**	0.0649	**0.828**	0.0998
Race (Reference: Non-black)				
Black	**1.143**	0.5247	**1.108**	0.6245
Body Mass Index (BMI) [kg/m2] (polynomial)				
BMI	**0.691**	0.0773	**0.698**	0.0803
BMI2	**1.013**	0.0549	**1.013**	0.0532
BMI3	**1.000**	0.0527	**1.000**	0.0475
With prior dialysis (Reference: No)				
Yes	**1.978**	0.0017	**1.936**	0.0023
Cause of ESKD (Reference: Other)				
Polycystic kidney disease	**0.763**	0.3562	**0.787**	0.4164
Diabetes	**1.158**	0.4294	**1.166**	0.4138
Glomerulonephritis	**1.053**	0.7414	**1.085**	0.6097
Hypertension	**1.057**	0.7608	**1.100**	0.6036
Calculated PRA (Reference: 80+)				
<80	**0.940**	0.7960	**0.966**	0.8859
Unknown	**1.049**	0.8724	**1.050**	0.8718
Donor Variables				
Age (Reference : >60)				
11-20	**1.335**	0.5330	**1.359**	0.5017
21-40	**0.898**	0.6420	**0.901**	0.6543
41-60	**1.051**	0.8133	**1.060**	0.7815
Gender (Reference: Female)				
Male	**1.174**	0.2623	**1.167**	0.2767
Race (Reference: Non-black)				
Black	**1.484**	0.0690	**1.497**	0.0611
LN (Donor Weight) (continuous)				
	1.065	0.8562	**1.080**	0.8249
History of Hypertension (Reference: No/Unknown)				
Yes	**0.988**	0.9687	**0.987**	0.9659
Cytomegalovirus (CMV) status (Reference: Negative)				
Positive	**1.090**	0.4561	**1.092**	0.4447
Unknown	**1.401**	0.2873	**1.434**	0.2548
Protein in Urine (Reference: No)				
Yes	**0.909**	0.7272	**0.892**	0.6781
Unknown	**0.961**	0.8529	**0.978**	0.9170

Pre-Donation Serum Creatinine [mg/dl] (continuous)				
	0.984	0.9529	**0.997**	0.9902
Transplant Variables				
Year of Transplant (Reference: 2012)				
2013	**0.734**	0.0269	**0.714**	0.0168
2014	**0.627**	0.0051	**0.629**	0.0054
2015	**0.784**	0.2090	**0.782**	0.2044
Number of HLA Mismatches (Reference: 6)				
<5	**0.762**	0.0622	**0.784**	0.0978
5	**1.023**	0.8679	**1.032**	0.8170
Unknown	**1.021**	0.9731	**1.045**	0.9414
DGF Status (Reference: No)				
Yes	**1.435**	0.1107	**1.374**	0.1617
Intercurrent Events -Discharge to 6 Months				
AR events (Reference: No)				
Yes	**-**	**-**	**1.437**	0.0323
Unknown	**-**	**-**	**1.296**	0.4467
CVD Events (Reference: No)				
Yes	**-**	**-**	**1.266**	0.1582
CMV Infections (Reference: No)				
Yes	**-**	**-**	**0.809**	0.4021
Other Infections (Reference: No)				
Yes	**-**	**-**	**1.370**	0.0182

Supplemental Figure S3. Regression results: Relative sub-distribution hazard ratio by 6-month eGFR post transplantation, LD Cohort (N=7, 645)





Supplemental Table S6. Regression Results: Adjusted SHRs for the prediction of graft failure using 12-month eGFR stratified by recipient race, DD Cohort (N=25,118)

	Recipient Race: Black (N=9,157)		Recipient Race: Non-Black (N=15,961)	
Category	**SHR**	**P-value**	**SHR**	**P-value**
eGFR – See Figure S5 below				
Recipient Variables				
With prior transplants (Reference: No)				
Yes	**0.967**	0.8290	**1.194**	0.1764
Age (Reference: <30)				
30 to 44	**0.443**	<.0001	**0.397**	<.0001
45 to 59	**0.278**	<.0001	**0.260**	<.0001
60 to 74	**0.168**	<.0001	**0.179**	<.0001
75+	**0.129**	<.0001	**0.243**	<.0001
Gender (Reference: Female)				
Male	**1.149**	0.0876	**1.070**	0.3707
Body Mass Index (BMI) [kg/m2] (polynomial)				
BMI	**0.795**	0.2315	**0.806**	0.2234
BMI^2	**1.008**	0.2474	**1.006**	0.2606
BMI^3	**1.000**	0.2665	**1.000**	0.2995
***LN (Years since Dialysis up to Transplant) (continuous)**				
	0.915	0.1772	**1.057**	0.2849
Cause of ESKD (Reference: Other)				
Polycystic kidney disease	**1.184**	0.5198	**0.801**	0.1785
Diabetes	**1.017**	0.9074	**1.350**	0.0112
Glomerulonephritis	**1.000**	0.9990	**1.139**	0.2205
Hypertension	**1.063**	0.6527	**1.007**	0.9550
Calculated PRA (Reference:80+/Unknown)				
<80	**1.155**	0.2729	**1.017**	0.8857
Donor Variables				
Age (Reference : >60)				
<=10	**1.407**	0.3080	**1.011**	0.9749
11-20	**1.458**	0.0704	**1.038**	0.8455
21-40	**1.132**	0.4652	**0.918**	0.5502
41-60	**0.969**	0.8321	**0.853**	0.1946
Gender (Reference: Female)				
Male	**0.940**	0.4413	**1.013**	0.8717
Race (Reference: Non-black)				
Black	**1.225**	0.0171	**1.212**	0.0803
LN (Donor Weight) (continuous)				
	1.104	0.5004	**0.968**	0.8189
History of Hypertension (Reference: No)				
Yes	**1.319**	0.0028	**1.078**	0.4015
Unknown	**0.807**	0.7465	**0.594**	0.2117
Cytomegalovirus (CMV) status (Reference: Negative)				
Positive	**1.038**	0.6504	**0.978**	0.7668
Unknown	**1.036**	0.9620	**0.283**	0.2210
Cause of Death (Reference: Other)				
Anoxia	**0.810**	0.3135	**0.975**	0.9106
Central Nervous System Tumor	**0.650**	0.4983	**0.764**	0.6980
Cerebrovascular Accident	**0.769**	0.2164	**1.039**	0.8627
Head Trauma	**0.830**	0.3814	**1.068**	0.7662
History of Diabetes (Reference: No)				

Yes	**1.126**	0.4043	**1.590**	<.0001
Unknown	**0.859**	0.8240	**4.214**	<.0001
Protein in Urine (Reference: No)				
Yes	**1.019**	0.8000	**1.097**	0.2096
Unknown	**0.260**	0.0727	**1.553**	0.3016
Pre-Donation Serum Creatinine [mg/dl] (continuous)				
	0.993	0.8707	**0.967**	0.5160
Transplant Variables				
Year of Transplant (Reference: 2012)				
2013	**1.112**	0.2769	**0.895**	0.2347
2014	**0.965**	0.7475	**1.047**	0.6468
2015	**1.074**	0.5435	**0.881**	0.3037
Number of HLA Mismatches (Reference: 6)				
<5	**0.926**	0.4793	**0.881**	0.2006
5	**0.827**	0.0217	**0.930**	0.3968
Unknown	**1.204**	0.6213	**0.817**	0.6153
CIT (Reference: >40)				
<=20	**0.829**	0.4374	**1.075**	0.7584
>20-40	**0.750**	0.2386	**0.978**	0.9258
Unknown	**0.726**	0.6200	**1.260**	0.5801
DGF Status (Reference: No)				
Yes	**1.033**	0.6966	**1.049**	0.5652
Received on Pump (Reference: No)				
Yes	**0.944**	0.4720	**0.896**	0.1760
Intercurrent Events -Discharge to 12 Months				
AR events (Reference: No)				
Yes	**1.711**	<.0001	**1.561**	<.0001
Unknown	**0.569**	0.3156	**1.094**	0.7353
CVD Events (Reference: No)				
Yes	**1.271**	0.0067	**1.196**	0.0410
CMV Infections (Reference: No)				
Yes	**1.000**	0.9991	**1.088**	0.4244
Other Infections (Reference: No)				
Yes	**1.006**	0.9431	**1.135**	0.1013

Supplemental Figure S4. Regression results: Relative sub-distribution hazard ratio by 12-month eGFR post transplantation stratified by recipient race, DD Cohort (N=25,118)