Supplemental Materials

Supplemental Table 1. Univariable risk of CKD development using Cox proportional hazards models

	Overall	Genotyped Cohort	PRO Cohort
	N=33,998	N=7,467	N=16,535
	HR (95% CI)	HR (95% CI)	HR (95% CI)
Demographics			
Female sex	**1.72 (1.41-2.10)**	**1.54 (1.25-1.90)**	**1.46 (1.23-1.74)**
Age at study entry	**1.09 (1.08-1.10)**	**1.08 (1.07-1.09)**	**1.09 (1.07-1.10)**
Baseline creatinine	**1.06 (1.04-1.08)**	**1.39 (1.36-1.42)**	**1.43 (1.38-1.48)**
Covariate			
African ancestry	--	1.30 (0.95-1.77)	--
AAB race (ref: Non-AAB)	**1.36 (1.09-1.70)**	1.20 (0.92-1.57)	1.08 (0.86-1.36)
APOL1 (ref: 0)			
1	--	1.04 (0.80-1.36)	--
2	--	**1.92 (1.49-2.49)**	--
HIV Characteristics			
Risk factor			
Heterosexual contact	**1.59 (1.27-1.98)**	**1.36 (1.15-1.62)**	**1.27 (1.09-1.49)**
IDU	**2.22 (1.79-2.75)**	**2.13 (1.74-2.61)**	**1.75 (1.53-2.01)**
MSM and IDU	0.96 (0.80-1.14)	0.92 (0.63-1.33)	**0.71 (0.62-0.81)**
Other	**1.25 (0.95-1.65)**	**1.83 (1.51-2.20)**	**1.39 (1.20-1.62)**
Missing	1.30 (0.83-2.02)	**1.62 (1.13-2.30)**	**1.52 (1.19-1.94)**
CD4 < 200	**1.60 (1.44-1.78)**	**1.31 (1.20-1.43)**	1.14 (0.93-1.38)
Nadir CD4 < 200	**1.12 (1.00-1.25)**	1.06 (0.97-1.15)	**1.30 (1.13-1.49)**
ARV at baseline	**1.29 (1.16-1.44)**	**1.25 (1.15-1.35)**	**1.35 (1.20-1.51)**
Log viral copy-years	**1.08 (1.07-1.09)**	**1.06 (1.01-1.11)**	
ART duration	**1.03 (1.00-1.05)**	**1.02 (1.00-1.04)**	**1.07 (1.03-1.11)**
PI duration	**1.04 (1.02-1.07)**	**1.04 (1.01-1.07)**	**1.06 (1.02-1.11)**
Tenofovir duration	**1.06 (1.01-1.12)**	**1.08 (1.02-1.15)**	1.06 (0.99-1.13)
Integrase duration	**1.10 (1.07-1.15)**	**1.12 (1.04-1.21)**	**1.10 (1.01-1.20)**
Atazanavir duration	**1.04 (1.01-1.07)**	1.00 (0.92-1.08)	**1.06 (1.01-1.11)**
Indinavir duration	**1.04 (1.01-1.07)**	1.02 (0.98-1.06)	**1.08 (1.03-1.12)**
Lopinavir duration	**1.07 (1.03-1.11)**	1.09 (0.996-1.18)	**1.10 (1.03-1.17)**
Comorbid Conditions			
HCV infection	**1.61 (1.38-1.89)**	**1.53 (1.28-1.82)**	**1.25 (1.08-1.46)**
HBV infection	**1.46 (1.31-1.63)**	1.14 (0.96-1.34)	**1.31 (1.17-1.46)**
Diabetes	**3.52 (3.00-4.13)**	**2.38 (1.97-2.88)**	**2.36 (2.06-2.69)**
Hypertension	**3.70 (3.16-4.33)**	**3.17 (2.77-3.62)**	**3.17 (2.78-3.60)**
Patient Reported Outcomes			
High risk alcohol abuse	--	--	**0.53 (0.47-0.60)**
IDU	--	--	0.93 (0.79-1.09)
Methamphetamine use	--	--	**0.85 (0.79-0.92)**
Marijuana use	--	--	**0.82 (0.76-0.88)**
Illicit opioid use	--	--	0.98 (0.90-1.08)
Cocaine/crack use	--	--	0.98 (0.91-1.05)

Supplemental Table 2. Univariable risk of CKD development using Fine and Gray competing risks regression

	CNICS Cohort	Genotyped Cohort	PRO Cohort
	N=33,998	N=7,467	N=16,535
	HR (95% CI)	HR (95% CI)	HR (95% CI)
Demographics			
Female sex	**1.67 (1.39-2.01)**	**1.54 (1.24-1.91)**	**1.47 (1.24-1.74)**
Age at study entry	**1.08 (1.07-1.09)**	**1.07 (1.07-1.08)**	**1.09 (1.08-1.10)**
Baseline creatinine	**1.06 (1.04-1.08)**	**1.37 (1.34-1.41)**	**1.43 (1.37-1.48)**
Covariate			
African ancestry	--	1.28 (0.95-1.71)	--
AAB race (ref: Non-AAB)	**1.30 (1.08-1.56)**	1.19 (0.92-1.53)	1.08 (0.86-1.36)
APOL1 (ref: 0)			
1	--	1.03 (0.79-1.33)	--
2	--	**1.88 (1.47-2.42)**	--
HIV Characteristics			
Risk factor			
Heterosexual contact	**1.53 (1.24-1.90)**	**1.35 (1.13-1.61)**	**1.28 (1.09-1.50)**
IDU	**1.89 (1.54-2.32)**	**1.96 (1.62-2.38)**	**1.81 (1.57-2.08)**
MSM and IDU	0.88 (0.76-1.02)	0.87 (0.62-1.24)	**0.72 (0.64-0.82)**
Other	1.23 (0.91-1.65)	**1.79 (1.49-2.16)**	**1.39 (1.18-1.63)**
Missing	1.27 (0.86-1.87)	**1.47 (1.03-2.08)**	**1.53 (1.21-1.95)**
CD4 < 200	**1.47 (1.33-1.63)**	**1.27 (1.17-1.37)**	**1.28 (1.03-1.59)**
Nadir CD4 < 200	**1.20 (1.08-1.33)**	**1.10 (1.00-1.20)**	**1.31 (1.14-1.51)**
ARV at baseline	**1.25 (1.12-1.40)**	**1.20 (1.12-1.29)**	**1.43 (1.29-1.59)**
Log viral copy-years	**1.08 (1.06-1.11)**	**1.06 (1.01-1.11)**	**1.04 (1.01-1.08)**
ART duration	1.01 (0.99-1.02)	1.02 (0.99-1.04)	**1.12 (1.08-1.16)**
PI duration	1.02 (0.997-1.03)	**1.04 (1.01-1.07)**	**1.07 (1.02-1.12)**
Tenofovir duration	1.02 (0.99-1.06)	**1.08 (1.03-1.14)**	1.06 (0.99-1.13)
Integrase duration	**1.04 (1.04-1.07)**	**1.12 (1.04-1.20)**	**1.12 (1.04-1.20)**
Atazanavir duration	0.99 (0.94-1.03)	1.00 (0.93-1.08)	**1.05 (1.01-1.09)**
Indinavir duration	**1.03 (1.02-1.04)**	1.01 (0.97-1.06)	**1.07 (1.03-1.12)**
Lopinavir duration	1.01 (0.98-1.04)	1.07 (0.98-1.16)	**1.10 (1.03-1.17)**
Comorbid Conditions			
HCV infection	**1.45 (1.26-1.67)**	**1.42 (1.20-1.69)**	**1.28 (1.10-1.50)**
HBV infection	**1.40 (1.26-1.55)**	1.10 (0.93-1.29)	**1.32 (1.18-1.48)**
Diabetes	**3.35 (2.91-3.87)**	**2.35 (1.93-2.88)**	**2.37 (2.09-2.69)**
Hypertension	**3.58 (3.13-4.09)**	**3.08 (2.69-3.53)**	**3.22 (2.82-3.68)**
Patient Reported Outcomes			
High risk alcohol abuse	--	--	**0.54 (0.46-0.65)**
IDU	--	--	0.94 (0.78-1.14)
Methamphetamine use	--	--	**0.74 (0.61-0.90)**
Marijuana use	--	--	**0.90 (0.72-0.90)**
Illicit opioid use	--	--	1.03 (0.89-1.19)
Cocaine/crack use	--	--	0.97 (0.82-1.14)

Supplemental Table 3. Multivariable Cox regression models for incident CKD, including BMI and baseline eGFR

	Overall Cohort	Genotyped Cohort	PRO Cohort	PRO + Genetics Cohort
	N=33,998	N=7,467	N=16,535	N=5,344
	aHR (95% CI)	aHR (95% CI)	aHR (95% CI)	aHR (95% CI)
Demographics				
Female sex	**1.36 (1.22-1.52)**	**1.36 (1.16-1.60)**	**1.41 (1.17-1.70)**	**1.35 (1.02-1.78)**
Age at study entry	**1.057 (1.052-1.063)**	**1.059 (1.050-1.067)**	**1.057 (1.049-1.066)**	**1.05 (1.04-1.07)**
Baseline eGFR	**0.944 (0.942-0.946)**	**0.944 (0.941-0.946)**	**0.945 (0.942-0.948)**	**0.949 (0.945-0.953)**
Covariate				
African ancestry	--	**0.74 (0.59-0.91)**	--	1.44 (0.71-2.90)
Black race (ref: Non-black)	**0.77 (0.68-0.85)**	--	**0.80 (0.67-0.97)**	**0.51 (0.28-0.92)**
APOL1 (ref: 0)				
1	--	0.85 (0.70-1.03)	--	0.75 (0.55-1.01)
2	--	1.13 (0.88-1.46)	--	1.18 (0.75-1.86)
HIV Characteristics				
CD4 < 200	1.10 (0.99-1.22)	--	--	--
ARV Naïve	**0.85 (0.77-0.94)**	--	**0.84 (0.70-0.999)**	--
Log viral copy-years	**0.97 (0.95-0.99)**	--	**0.91 (0.88-0.94)**	--
ART duration	--	--	**0.97 (0.94-0.999)**	--
PI duration	--	1.04 (0.996-1.09)	--	--
Tenofovir duration	--	--	--	--
Integrase duration	**1.11 (1.07-1.14)**	**1.14 (1.05-1.23)**	**1.10 (1.05-1.16)**	**1.22 (1.14-1.30)**
Atazanavir duration	--	--	**1.08 (1.03-1.14)**	--
Indinavir duration	--	0.89 (0.78-1.003)	**0.86 (0.79-0.995)**	--
Lopinavir duration	--	--	--	--
Comorbid Conditions				
HCV infection	**0.86 (0.77-0.97)**	--	**0.78 (0.64-0.95)**	--
HBV infection	--	--	--	--
Diabetes	--	--	--	--
Hypertension	**1.50 (1.33-1.69)**	**1.51 (1.28-1.79)**	1.22 (0.995-1.50)	**1.37 (1.05-1.81)**
BMI				
<19	**1.35 (1.05-1.75)**	**1.61 (1.11-2.32)**	**1.45 (1.02-2.07)**	**1.80 (1.04-3.12)**
19-24	Ref	Ref	Ref	Ref
25-29	0.90 (0.81-1.01)	0.96 (0.82-1.13)	0.93 (0.78-1.12)	0.83 (0.64-1.07)
≥30	0.91 (0.80-1.04)	0.92 (0.76-1.11)	0.88 (0.69-1.11)	0.84 (0.59-1.18)
Patient Reported Outcomes				
High risk alcohol abuse	--	--	**0.78 (0.66-0.93)**	**0.58 (0.46-0.75)**
IDU*	--	--	--	--
Amphetamine use*	--	--	--	--
Marijuana use*	--	--	--	--
Opiate use*	--	--	--	--
Crack/cocaine use*	--	--	--	--

* among 10,207 PLWH (1,025 CKD events)

Supplemental Table 4. Multivariable Fine and Gray regression models for incident CKD, including BMI and baseline eGFR

	CNICS Cohort	Genotyped Cohort	PRO Cohort	PRO + Genetics Cohort
	N=33,998	N=7,467	N=16,535	N=5,344
	asdHR (95% CI)	asdHR (95% CI)	asdHR (95% CI)	asdHR (95% CI)
Demographics				
Female sex	**1.29 (1.18-1.42)**	**1.29 (1.06-1.57)**	**1.32 (1.14-1.52)**	**1.22 (1.02-1.45)**
Age at study entry	**1.050 (1.045-1.054)**	**1.033 (1.024-1.041)**	**1.050 (1.044-1.057)**	**1.049 (1.041-1.057)**
Baseline eGFR	**0.951 (0.950-0.952)**	**0.967 (0.964-0.970)**	**0.947 (0.944-0.949)**	**0.950 (0.947-0.953)**
Covariate				
African ancestry	--	**0.69 (0.52-0.91)**	--	**0.66 (0.53-0.82)**
Black race (ref: Non-black)	--	--	**0.76 (0.67-0.87)**	--
APOL1 (ref: 0)				
1	--	0.93 (0.72-1.22)	--	0.85 (0.69-1.03)
2	--	1.09 (0.79-1.51)	--	**1.34 (1.03-1.74)**
HIV Characteristics				
CD4 < 200*	--	**1.30 (1.08-1.57_**	1.13 (0.998-1.28)	--
ARV Naïve	**0.91 (0.84-0.98)**	**1.25 (1.04-1.49)**	--	--
Log viral copy-years	--	--	--	1.045 (1.012-1.078)
ART duration	--	--	--	--
PI duration	--	--	**1.02 (1.00-1.05)**	--
Tenofovir duration	--	--	--	--
Integrase duration	**1.11 (1.08-1.13)**	--	**1.10 (1.07-1.13)**	**1.16 (1.09-1.23)**
Comorbid Conditions				
HCV infection	**0.78 (0.71-0.85)**	--	**0.79 (0.69-0.91)**	**0.81 (0.69-0.96)**
HBV infection	--	--	--	--
Diabetes	--	**1.38 (1.12-1.69)**	--	--
Hypertension	**1.53 (1.39-1.69)**	--	**1.60 (1.40-1.84)**	**1.54 (1.31-1.82)**
BMI				
<19	1.20 (0.96-1.49)	1.13 (0.75-1.70)	**1.44 (1.10-1.89)**	**1.64 (1.17-2.82)**
19-24	Ref	Ref	Ref	Ref
25-29	0.95 (0.87-1.04)	0.89 (0.72-1.11)	0.95 (0.83-1.08)	0.95 (0.81-1.12)
≥30	0.94 (0.84-1.05)	0.74 (0.58-0.95)	0.94 (0.80-1.10)	0.94 (0.77-1.15)
Patient Reported Outcomes				
High risk alcohol abuse	--	--	0.85 (0.71-1.02)	**0.63 (0.49-0.82)**
IDU*	--	--	--	--
Amphetamine use*	--	--	--	--
Marijuana use*	--	--	--	--
Opiate use*	--	--	--	--

* among 10,207 PLWH (1,025 CKD events)

Supplemental Table 5. Univariable Cox regression models for incident CKD, excluding the race coefficient from the CKD-EPI equation

	Genotyped Cohort	CNICS Cohort	PRO Cohort
	N=7,467	N=33,998	N=16,535
	HR (95% CI)	HR (95% CI)	HR (95% CI)
Demographics			
Female sex	**1.61 (1.44-1.80)**	**1.71 (1.60-1.84)**	**1.57 (1.43-1.71)**
Age at study entry	**1.08 (1.07-1.08)**	**1.09 (1.08-1.09)**	**1.09 (1.08-1.09)**
Baseline creatinine	**1.38 (1.32-1.43)**	**1.06 (1.04-1.08)**	**1.40 (1.35-1.46)**
Covariate			
African ancestry	**2.07 (1.84-2.33)**	--	--
Black race (ref: Non-black)	**1.84 (1.66-2.04)**	**1.97 (1.84-2.10)**	**1.69 (1.56-1.83)**
APOL1 (ref: 0)			
1	**1.31 (1.17-1.46)**	--	--
2	**2.24 (1.90-2.64)**	--	--
HIV Characteristics			
Risk factor			
Heterosexual contact	**1.55 (1.38-1.75)**	**1.71 (1.59-1.84)**	**1.52 (1.39-1.67)**
IDU	**2.15 (1.87-2.48)**	**2.23 (2.04-2.45)**	**1.99 (1.77-2.24)**
MSM and IDU	0.86 (0.68-1.09)	0.87 (0.76-1.00)	**0.73 (0.61-0.88)**
Other	**1.84 (1.23-2.76)**	1.22 (0.99-1.50)	1.30 (0.97-1.74)
Missing	**1.72 (1.25-2.35)**	**1.42 (1.16-1.74)**	**1.89 (1.35-2.65)**
CD4 < 200	**1.38 (1.25-1.54)**	**1.65 (1.55-1.77)**	**1.47 (1.35-1.60)**
Nadir CD4 < 200	**1.42 (1.12-1.18)**	**1.42 (1.12-1.18)**	**1.39 (1.07-1.81)**
ARV Naïve	**0.82 (0.75-0.91)**	**0.82 (0.77-0.87)**	**0.77 (0.71-0.84)**
Log viral copy-years	1.01 (0.99-1.03)	1.00 (0.99-1.02)	0.99 (0.98-1.01)
ART duration	**1.02 (1.00-104)**	**1.02 (1.01-1.03)**	**1.02 (1.01-1.04)**
PI duration	**1.04 (1.02-1.07)**	**1.04 (1.03-1.05)**	**1.04 (1.02-1.06)**
Tenofovir duration	**1.09 (1.02-1.16)**	**1.06 (1.02-1.09)**	**1.06 (1.02-1.10)**
Integrase duration	**1.09 (1.02-1.16)**	**1.08 (1.06-1.11)**	**1.10 (1.06-1.13)**
Atazanavir duration	1.04 (0.97-1.11)	**1.05 (1.01-1.08)**	**1.04 (1.01-1.08)**
Indinavir duration	1.01 (0.96-1.07)	1.02 (0.99-1.06)	**1.04 (1.00-1.07)**
Lopinavir duration	**1.08 (1.01-1.15)**	**1.06 (1.03-1.10)**	**1.07 (1.03-1.11)**
Comorbid Conditions			
HCV infection	**1.46 (1.31-1.63)**	**1.58 (1.47-1.69)**	**1.37 (1.25-1.49)**
HBV infection	**1.21 (1.02-1.43)**	**1.43 (1.29-1.60)**	**1.37 (1.20-1.57)**
Diabetes	**2.24 (2.02-2.49)**	**3.22 (3.01-3.45)**	**2.40 (2.20-2.61)**
Hypertension	**3.21 (2.87-3.59)**	**3.72 (3.47-4.00)**	**3.24 (2.96-3.54)**
Patient Reported Outcomes			
High risk alcohol abuse	--	--	**0.59 (0.52-0.68)**
IDU*	--	--	**0.65 (0.43-0.97)**
Amphetamine use*	--	--	**0.51 (0.42-0.61)**
Marijuana use*	--	--	**0.66 (0.60-0.72)**
Opiate use*	--	--	0.90 (0.69-1.17)
Crack/cocaine use*	--	--	1.01 (0.87-1.17)

* among 10,207 PLWH (1,025 CKD events)

Supplemental Table 6. Multivariable Fine and Gray regression models for incident CKD, including BMI and baseline eGFR

	Genotyped Cohort	CNICS Cohort	PRO Cohort
	N=7,467	N=33,998	N=16,535
	HR (95% CI)	HR (95% CI)	HR (95% CI)
Demographics			
Female sex	**1.61 (1.44-1.80)**	**1.70 (1.58-1.82)**	**1.57 (1.44-1.72)**
Age at study entry	**1.07 (1.07-1.08)**	**1.08 (1.08-1.08)**	**1.08 (1.07-1.08)**
Baseline creatinine	**1.37 (1.32-1.42)**	**1.06 (1.04-1.08)**	**1.40 (1.35-1.46)**
Covariate			
African ancestry	**2.05 (1.82-2.30)**	--	--
Black race (ref: Non-black)	**1.83 (1.65-2.02)**	**1.90 (1.78-2.03)**	**1.70 (1.57-1.85)**
APOL1 (ref: 0)			
1	**1.30 (1.16-1.45)**	--	--
2	**2.21 (1.87-2.61)**	--	--
HIV Characteristics			
Risk factor			
Heterosexual contact	**1.54 (1.37-1.74)**	**1.67 (1.56-1.80)**	**1.53 (1.39-1.67)**
IDU	**2.00 (1.74-2.31)**	**1.95 (1.78-2.13)**	**1.93 (1.71-2.16)**
MSM and IDU	0.84 (0.66-1.06)	**0.82 (0.71-0.95)**	**0.72 (0.60-0.87)**
Other	**1.66 (1.10-2.49)**	1.10 (0.89-1.35)	1.25 (0.93-1.67)
Missing	**1.58 (1.16-2.17)**	**1.30 (1.06-1.59)**	**1.87 (1.34-2.62)**
CD4 < 200*	**1.34 (1.20-1.48)**	**1.51 (1.41-1.61)**	**1.46 (1.34-1.58)**
Nadir CD4 < 200	**1.35 (1.07-.171)**	**1.35 (1.07-1.71)**	**1.38 (1.06-1.80)**
ARV Naïve	**0.85 (0.77-0.94)**	**0.84 (0.79-0.89)**	**0.79 (0.73-0.85)**
Log viral copy-years	1.01 (0.99-1.03)	1.00 (0.99-1.01)	0.99 (0.98-1.01)
ART duration	1.02 (1.00-1.04)	**1.02 (1.01-1.03)**	**1.02 (1.01-1.03)**
PI duration	**1.04 (1.01-1.06)**	**1.03 (1.02-1.05)**	**1.04 (1.02-1.05)**
Tenofovir duration	**1.08 (1.01-1.15)**	**1.05 (1.02-1.09)**	**1.05 (1.01-1.09)**
Integrase duration	**1.09 (1.02-1.16)**	**1.08 (1.05-1.11)**	**1.09 (1.06-1.12)**
Atazanavir duration	1.03 (0.96-1.11)	**1.04 (1.01-1.08)**	**1.04 (1.00-1.08)**
Indinavir duration	1.01 (0.96-1.07)	1.03 (0.99-1.06)	**1.04 (1.00-1.07)**
Lopinavir duration	1.06 (0.99-1.14)	**1.06 (1.03-1.10)**	**1.06 (1.02-1.10)**
Comorbid Conditions			
HCV infection	**1.39 (1.25-1.55)**	**1.45 (1.36-1.56)**	**1.32 (1.21-1.45)**
HBV infection	1.18 (0.995-1.40)	**1.38 (1.23-1.54)**	**1.35 (1.18-1.55)**
Diabetes	**2.23 (2.00-2.48)**	**3.20 (2.99-3.43)**	**2.36 (2.17-2.57)**
Hypertension	**3.17 (2.84-3.55)**	**3.69 (3.44-3.96)**	**3.23 (2.96-3.53)**
Patient Reported Outcomes			
High risk alcohol abuse	--	--	**0.60 (0.52-0.68)**
High risk alcohol abuse	--	--	0.97 (0.83-1.14)
IDU*	--	--	**0.62 (0.57-0.68)**
Amphetamine use*	--	--	**0.77 (0.71-0.84)**
Marijuana use*	--	--	1.04 (0.94-1.15)
Opiate use*	--	--	0.97 (0.90-1.05)

* among 10,207 PLWH (1,025 CKD events)

Supplemental Table 7. Multivariable Cox proportional hazards regression for incident CKD, excluding the race coefficient from the CKD-EPI equation

	Overall	Genotyped	PRO Cohort	Both
	aHR (95% CI)	aHR (95% CI)	aHR (95% CI)	aHR (95% CI)
Demographics				
Female sex	**1.48 (1.37-1.60)**	**1.69 (1.48-1.92)**	**1.49 (1.30-1.71)**	**1.59 (1.36-1.85)**
Age at study entry	**1.08 (1.07-1.09)**	**1.08 (1.07-1.08)**	**1.08 (1.08-1.09)**	**1.07 (1.065-1.082)**
Black race	**1.45 (1.35-1.56)**	1.08 (0.79-1.48)	**1.27 (1.15-1.40)**	1.05 (0.70-1.58)
Baseline creatinine	**1.06 (1.04-1.08)**	**1.37 (1.30-1.44)**	**1.37 (1.30-1.44)**	**1.36 (1.25-1.47)**
APOL1 risk	--	**1.28 (1.01-1.62)**	--	**1.37 (1.02-1.81)**
African ancestry	--	1.17 (0.81-1.67)	--	1.10 (0.69-1.76)
Comorbid Conditions				
HCV infection	**1.15 (1.07-1.24)**	--	--	--
HBV infection	**1.32 (1.17-1.49)**	--	--	--
Diabetes	**1.79 (1.65-1.94)**	**1.31 (1.16-1.49)**	**1.25 (1.13-1.39)**	**1.20 (1.04-1.38)**
Hypertension	**1.80 (1.66-1.96)**	**1.65 (1.43-1.92)**	**1.50 (1.34-1.69)**	**1.55 (1.31-1.84)**
Log VCY	**1.04 (1.02-1.05)**	**1.04 (1.02-1.07)**	--	--
ART duration	--	--	**0.98 (0.96-0.995)**	0.99 (0.96-1.01)
PI duration	--	--	--	--
INSTI duration	**1.08 (1.05-1.11)**	**1.11 (1.03-1.19)**	**1.10 (1.06-1.13)**	**1.14 (1.06-1.21)**
CD4 < 200 cells/mL	**1.48 (1.38-1.59)**	**1.30 (1.16-1.49)**	**1.34 (1.20-1.51)**	**1.29 (1.13-1.47)**
High-risk alcohol use	--	--	**0.78 (0.68-0.89)**	**0.76 (0.62-0.93)**
Amphetamine use	--	--	0.82 (0.66-1.00)	0.77 (0.54-1.09)

Abbreviations: aHR, adjusted hazard ratio; CI, confidence interval; HCV, Hepatitis C virus; HBV, Hepatitis B virus; ART: antiretroviral therapy; VCY: viral copy-years; MSM: men who have sex with men; IDU: intravenous drug user

Supplemental Table 8. Multivariable Fine and Gray competing risks regression for incident CKD, excluding the race coefficient from the CKD-EPI equation

	Overall	Genotyped	PRO Cohort	Both
	aHR (95% CI)	aHR (95% CI)	aHR (95% CI)	aHR (95% CI)
Demographics				
Female sex	**1.49 (1.38-1.62)**	**1.64 (1.44-1.87)**	**1.45 (1.27-1.65)**	**1.55 (1.32-1.81)**
Age at study entry	**1.07 (1.065-1.072)**	**1.07 (1.06-1.08)**	**1.08 (1.07-1.08)**	**1.07 (1.06-1.08)**
Black race	**1.42 (1.32-1.53)**	1.17 (0.85-1.60)	**1.28 (1.16-1.42)**	1.11 (0.75-1.66)
Baseline creatinine	**1.06 (1.04-1.08)**	**1.35 (1.29-1.42)**	**1.36 (1.30-1.43)**	**1.35 (1.25-1.46)**
APOL1 risk	--	**1.29 (1.00-1.66)**	--	**1.33 (1.03-1.72)**
African ancestry	--	1.09 (0.75-1.57)	--	1.05 (0.66-1.67)
Comorbid Conditions				
HBV infection	**1.32 (1.17-1.48)**	--	--	--
Diabetes	**1.85 (1.70-2.00)**	**1.35 (1.19-1.54)**	**1.23 (1.11-1.37)**	**1.19 (1.04-1.37)**
Hypertension	**1.86 (1.71-2.03)**	**1.66 (1.44-1.93)**	**1.58 (1.41-1.77)**	**1.60 (1.36-1.90)**
Log VCY	**1.03 (1.02-1.05)**	**1.04 (1.01-1.07)**	--	--
ART duration	--	--	**0.98 (0.96-0.99)**	0.99 (0.97-1.01)
PI duration	--	--	--	--
INSTI duration	**1.07 (1.05-1.11)**	**1.11 (1.03-1.19)**	**1.09 (1.06-1.13)**	**1.13 (1.06-1.22)**
CD4 < 200 cells/mL	**1.38 (1.28-1.48)**	**1.25 (1.11-1.40)**	**1.32 (1.18-1.47)**	**1.28 91.12-1.46)**
High-risk alcohol use	--	--	**0.76 (0.66-0.87)**	**0.76 (0.72-0.93)**
Amphetamine use	--	--	**0.86 (0.75-0.98)**	0.92 (0.77-1.11)
Cocaine/crack use	--	--	1.12 (0.99-1.26)	1.01 (0.88-1.16)

Abbreviations: aHR, adjusted hazard ratio; CI, confidence interval; HCV, Hepatitis C virus; HBV, Hepatitis B virus; ART: antiretroviral therapy; VCY: viral copy-years; MSM: men who have sex with men; IDU: intravenous drug user

Supplemental Table 9. Multivariable Fine and Gray competing risks regression for incident CKD

	PRO Cohort	Both
	aHR (95% CI)	aHR (95% CI)
Demographics		
Female sex	**1.51 (1.24-1.84)**	**1.49 (1.16-1.91)**
Age at study entry	**1.07 (1.065-1.081)**	**1.07 (1.06-1.09)**
Black race	**0.72 (0.61-0.84)**	0.83 (0.43-1.58)
Baseline creatinine	**1.41 (1.35-1.47)**	**1.48 (1.41-1.54)**
APOL1 risk	--	1.42 (0.94-2.13)
African ancestry	--	0.73 (0.33-1.59)
Comorbid Conditions		
HBV infection	0.88 (0.62-1.27)	1.02 (0.73-1.42)
HCV infection	0.94 (0.79-1.13)	1.02 (0.82-1.26)
Diabetes	**1.48 (1.25-1.75)**	**1.50 (1.21-1.86)**
Hypertension	**1.66 (1.38-2.01)**	**1.65 (1.30-2.10)**
Log VCY	1.00 (0.97-1.03)	1.04 (0.999-1.084)
ARV Naïve	**0.78 (0.67-0.91)**	**0.79 (0.65-0.97)**
ART duration	**0.95 (0.92-0.99)**	0.97 (0.92-1.02)
INSTI duration	**1.16 (1.08-1.25)**	**1.22 (1.09-1.36)**
AZT duration	1.01 (0.93-1.10)	0.92 (0.79-1.07)
IND duration	1.04 (0.96-1.14)	0.99 (0.85-1.15)
CD4 < 200 cells/mL	**1.27 (1.08-1.48)**	1.20 (0.99-1.46)
Entry year	**0.97 (0.95-0.98)**	0.98 (0.96-1.00)
Substances used $\geq$4*	0.79 (0.60-1.03)	0.67 (0.43-1.02)

Abbreviations: aHR, adjusted hazard ratio; CI, confidence interval; HCV, Hepatitis C virus; HBV, Hepatitis B virus; ART: antiretroviral therapy; VCY: viral copy-years; MSM: men who have sex with men; IDU: intravenous drug user

*includes: high risk alcohol use and current or past: methamphetamine use, cocaine use, marijuana use, illicit opioid use, or intravenous drug use

Supplemental Table 10. Multivariable Fine and Gray competing risks regression for incident CKD, including BMI

	Overall	Genotyped	PRO Cohort	Both
	aHR (95% CI)	aHR (95% CI)	aHR (95% CI)	aHR (95% CI)
Demographics				
Female sex	**1.78 (1.53-2.07)**	**1.78 (1.52-2.07)**	**1.65 (1.37-1.98)**	**1.62 (1.34-1.95)**
Age at study entry	**1.07 (1.061-1.077)**	**1.069 (1.061-1.077)**	**1.07 (1.062-1.080)**	**1.07 (1.06-1.08)**
Black race	**0.64 (0.55-0.73)**	0.74 (0.51-1.06)	**0.57 (0.49-0.67)**	0.64 (0.40-1.00)
Baseline creatinine	**1.39 (1.33-1.45)**	**1.38 (1.33-1.44)**	**1.41 (1.31-1.52)**	**1.41 (1.31-.151)**
2 *APOL1* risk (ref: 0)	--	**1.55 (1.15-2.11)**	--	**1.60 (1.15-2.21)**
African ancestry	--	0.75 (0.48-1.18)	--	0.83 (0.48-1.42)
Comorbid Conditions				
HBV infection	1.15 (0.91-1.45)	1.12 (0.88-1.42)	1.09 (0.85-1.38)	1.09 (0.85-1.39)
Diabetes	**1.43 (1.23-1.66)**	**1.46 (1.26-1.70)**	**1.34 (1.14-1.57)**	**1.36 (1.16-1.60)**
Hypertension	**1.60 (1.36-1.89)**	**1.62 (1.37-1.91)**	**1.62 (1.36-1.93)**	**1.61 (1.35-1.93)**
BMI	1.00 (0.99-1.01)	1.00 (0.99-1.00)		
Log VCY	**1.05 (1.02-1.09)**	**1.05 (1.02-1.09)**	--	--
ARV Naïve	--	--	0.92 (0.78-1.06)	0.90 (0.78-1.05)
PI duration	--	--	--	--
INSTI duration	**1.11 (1.03-1.20)**	**1.11 (1.03-1.19)**	**1.11 (1.03-1.20)**	**1.11 (1.03-1.20)**
CD4 < 200 cells/mL	1.11 (0.96-1.29)	1.15 (0.99-1.32)	**1.16 (1.00-1.34)**	**1.18 (1.02-1.37)**
High-risk alcohol use	--	--	**0.66 (0.52-0.83)**	**0.63 (0.50-0.80)**
Amphetamine use	--	--	1.16 (0.98-1.38)	1.15 (0.97-1.37)

Abbreviations: aHR, adjusted hazard ratio; CI, confidence interval; HCV, Hepatitis C virus; HBV, Hepatitis B virus; ART: antiretroviral therapy; VCY: viral copy-years; MSM: men who have sex with men; IDU: intravenous drug user

Supplemental Table 11. Multivariable Fine and Gray competing risks regression for incident CKD, with econometric fixed effects for study site

	Overall	Genotyped	PRO Cohort	Both
	aHR (95% CI)	aHR (95% CI)	aHR (95% CI)	aHR (95% CI)
Demographics				
Female sex	**1.63 (1.49-1.79)**	**1.77 (1.53-2.06)**	**1.61 (1.39-1.88)**	**1.63 (1.36-1.95)**
Age at study entry	**1.07 (1.065-1.074)**	**1.068 (1.060-1.077)**	**1.07 (1.067-1.078)**	**1.069 (1.060-1.78)**
Black race	**0.78 (0.71-0.86)**	0.68 (0.47-1.00)	**0.62 (0.54-0.71)**	**0.56 (0.35-0.90)**
Baseline creatinine	**1.07 (1.05-1.08)**	**1.40 (1.35-1.46)**	**1.41 (1.35-1.47)**	**1.43 (1.34-1.52)**
2 *APOL1* risk (ref: 0)	--	**1.54 (1.14-2.07)**	--	**1.60 (1.17-2.20)**
African ancestry	--	0.77 (0.49-1.22)	--	0.90 (0.52-1.56)
Comorbid Conditions				
HBV infection	**1.44 (1.26-1.65)**	1.03 (0.80-1.32)	1.00 (0.76-1.33)	0.95 (0.74-1.23)
Diabetes	**1.86 (1.70-2.04)**	**1.40 (1.34-1.46)**	**1.33 (1.18-1.49)**	**1.29 (1.10-1.51)**
Hypertension	**1.85 (1.68-2.04)**	**1.59 (1.35-1.88)**	**1.55 (1.36-1.76)**	**1.60 (1.34-1.92)**
Log VCY	**1.04 (1.03-1.06)**	**1.03 (1.00-1.07)**	--	**1.04 (1.01-1.08)**
ARV Naïve	--	--	0.93 (0.83-1.03)	0.90 (0.78-1.03)
PI duration	--	--	--	--
INSTI duration	**1.09 (1.06-1.13)**	**1.11 (1.03-1.20)**	**1.09 (1.05-1.13)**	**1.13 (1.05-1.21)**
CD4 < 200 cells/mL	**1.35 (1.24-1.46)**	**1.16 (1.01-1.33)**	**1.25 (1.12-1.40)**	**1.17 (1.01-1.36)**
High-risk alcohol use	--	--	**0.69 (0.58-0.81)**	**0.61 (0.47-0.77)**
Amphetamine use	--	--	0.98 (0.86-1.11)	1.01 (0.84-1.22)

Abbreviations: aHR, adjusted hazard ratio; CI, confidence interval; HCV, Hepatitis C virus; HBV, Hepatitis B virus; ART: antiretroviral therapy; VCY: viral copy-years; MSM: men who have sex with men; IDU: intravenous drug user
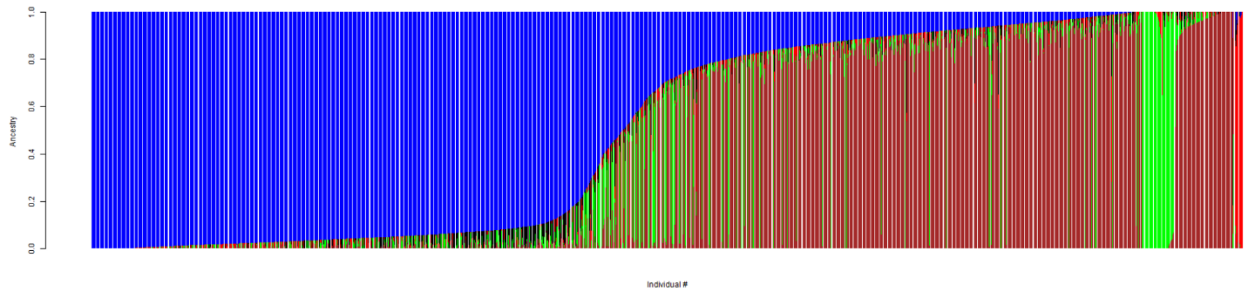
Supplemental Table 12. Multivariable Fine and Gray competing risks regression for incident CKD adjusting for baseline eGFR

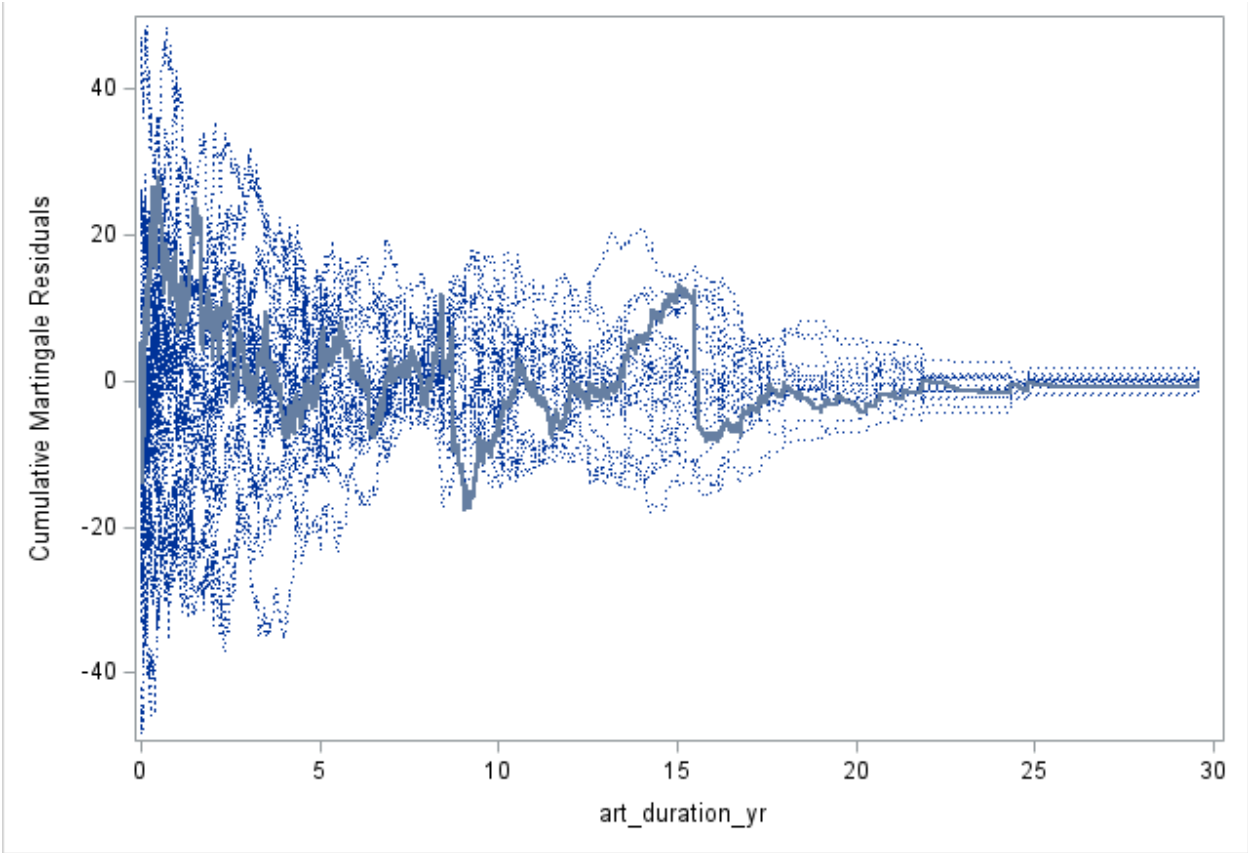|	Overall	Genotyped	PRO Cohort	Both
	aHR (95% CI)	aHR (95% CI)	aHR (95% CI)	aHR (95% CI)
Demographics				
Female sex	**1.38 (1.25-1.52)**	**1.33 (1.14-1.56)**	**1.33 (1.17-1.51)**	**1.21 (1.00-1.46)**
Age at study entry	**1.048 (1.043-1.053)**	**1.048 (1.041-1.056)**	**1.051 (1.045-1.057)**	**1.04 (1.038-1.055)**
Black race	**0.77 (0.70-0.85)**	0.93 (0.65-1.32)	**0.75 (0.66-0.84)**	0.74 (0.47-1.17)
Baseline eGFR	**0.951 (0.949-0.953)**	**0.951 (0.949-0.954)**	**0.948 (0.946-0.950)**	**0.949 (0.945-0.952)**
2 *APOL1* risk (ref: 0)	--	**1.56 (1.22-1.99)**	--	**1.41 (1.06-1.89)**
African ancestry	--	0.68 (0.44-1.06)	--	0.84 (0.49-1.43)
Comorbid Conditions				
HCV infection	**0.82 (0.74-0.90)**	**0.84 (0.72-0.98)**	**0.80 (0.71-0.91)**	**0.84 (0.71-0.998)**
HBV infection	1.02 (0.87-1.21)	0.85 (0.66-1.09)	0.99 (0.81-1.22)	--
Diabetes	1.14 (1.03-1.27)	1.11 (0.95-1.30)	0.94 (0.83-1.07)	--
Hypertension	**1.60 (1.44-1.77)**	**1.45 (1.23-1.72)**	**1.50 (1.31-1.71)**	**1.52 (1.27-1.81)**
Log VCY	1.01 (0.996-1.032)	**1.04 (1.01-1.07)**	**1.01 (0.99-1.04)**	**1.06 (1.03-1.11)**
ARV Naïve	**0.89 (0.81-0.97)**	--	**0.85 (0.75-0.95)**	0.82 (0.70-0.96)
PI duration	--	--	--	--
INSTI duration	**1.11 (1.08-1.14)**	**1.14 (1.06-1.22)**	**1.10 (1.07-1.13)**	**1.15 (1.07-1.23)**
CD4 < 200 cells/mL	1.08 (0.99-1.18)	1.01 (0.87-1.16)	1.12 (0.995-1.25)	1.03 (0.89-1.21)
High-risk alcohol use	--	--	0.87 (0.74-1.02)	**0.70 (0.54-0.91)**
Amphetamine use	--	--	1.11 (0.97-1.27)	1.12 (0.93-1.35)

Abbreviations: aHR, adjusted hazard ratio; CI, confidence interval; HCV, Hepatitis C virus; HBV, Hepatitis B virus; ART: antiretroviral therapy; VCY: viral copy-years; MSM: men who have sex with men; IDU: intravenous drug user; eGFR: estimated glomerular filtration rate

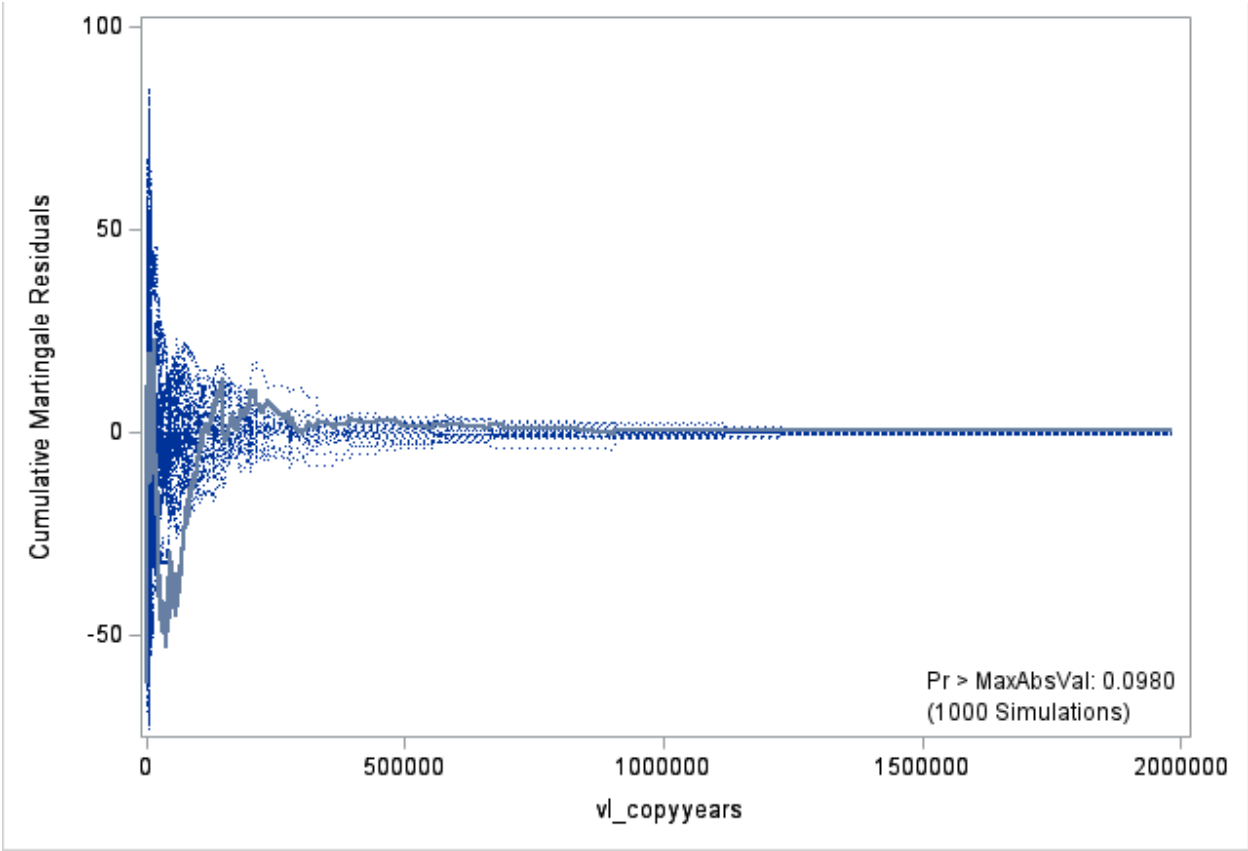Supplemental Figure 1. Genetic Ancestry Distribution among PWH

EUR: European
AFR: African
AMR: Ad Mixed American
SAS: South Asian
EAS: East Asian

Supplemental Figure 3. Martingale residuals to assess linearity for antiretroviral therapy duration (years)

Supplemental Figure 4. Martingale residuals to assess linearity for viral copy-years

Pr > MaxAbsVal: 0.0980
(1000 Simulations)

Supplemental Figure 5. Martingale residuals to assess linearity for creatinine