Supplementary Table 1. Body mass index category after three years of
antiretroviral therapy, stratified by race and sex in NA-ACCORD (n=13,451)

White males (n=5424)							
Baseline BMI category	BMI category after 3 years of ART						
	Underweight	Normal	Overweight	Obese			
	<18.5 kg/m ²	18.5-24.9 kg/m ²	25.0-29.9 kg/m ²	<u>></u> 30 kg/m ²			
Underweight	83 (37%)	135 (60%)	6 (3%)	1 (<1%)			
Normal	47 (2%)	2175 (74%)	673 (23%)	50 (2%)			
Overweight	1 (<1%)	253 (15%)	1169 (68%)	298 (17%)			
Obese	0	6 (1%)	102 (19%)	425 (80%)			
Non-white males (n=582	3)						
Baseline BMI category	BMI category after 3 years of ART						
	Underweight	Normal	Overweight	Obese			
Underweight	96 (35%)	161 (59%)	14 (5%)	2 (1%)			
Normal	71 (2%)	2239 (73%)	690 (22%)	67 (2%)			
Overweight	3 (<1%)	262 (15%)	1157 (67%)	307 (18%)			
Obese	0	9 (1%)	104 (14%)	641 (85%)			
White females (n=414)							
Baseline BMI category	BMI category after 3 years of ART						
	Underweight	Normal	Overweight	Obese			
Underweight	7 (54%)	6 (46%)	0	0			
Normal	10 (6%)	128 (77%)	27 (16%)	1 (1%)			
Overweight	0	33 (29%)	62 (55%)	17 (15%)			
Obese	0	3 (2%)	14 (11%)	106 (86%)			
Non-white females (n=17	790)						
Baseline BMI category		BMI category aft	er 3 years of ART				
	Underweight	Normal	Overweight	Obese			
Underweight	37 (53%)	31 (44%)	2 (3%)	0			
Normal	29 (5%)	423 (70%)	126 (21%)	25 (4%)			
Overweight	1 (<1%)	87 (17%)	320 (62%)	106 (21%)			
Obese	1 (<1%)	10 (2%)	40 (7%)	552 (92%)			

Abbreviations: ART, antiretroviral therapy; BMI, body mass index. Non-white category includes Hispanics.

Shaded cells represent patients who moved to a higher BMI category after 3 years of ART $\,$

633 patients were missing a BMI at 3 years or had unknown race classification

Supplementary Table 2a. Predicted CD4+ cell count by BMI value and years of ART for the primary analysis (n=14,084)

/ / /	7					
Years of ART	BMI*					
	18.5 kg/m ²	22 kg/m ²	25 kg/m ²	30 kg/m ²	40 kg/m ²	
0 (baseline)	246 cells/μl	288	311	328	347	
1	387	416	442	470	497	
3	427	483	515	564	611	
5	431	498	544	606	665	

Abbreviations: ART, antiretroviral therapy; BMI, body mass index

Supplementary Table 2b. Predicted CD4+ cell count by BMI value and years of ART for the sensitivity analysis incorporating data from the 1133 female patients excluded in the primary analysis (n=15,217)

Years of ART	BMI*				
	18.5 kg/m ²	22 kg/m ²	25 kg/m ²	30 kg/m ²	40 kg/m ²
0 (baseline)	242 cells/μl	283	306	324	344
1	385	410	436	464	495
3	423	475	509	557	601
5	422	489	535	600	658

Abbreviations: ART, antiretroviral therapy; BMI, body mass index

^{*}BMI is at time of CD4+ count measurement (e.g., at after 3 years of ART), irrespective of pre-treatment BMI value

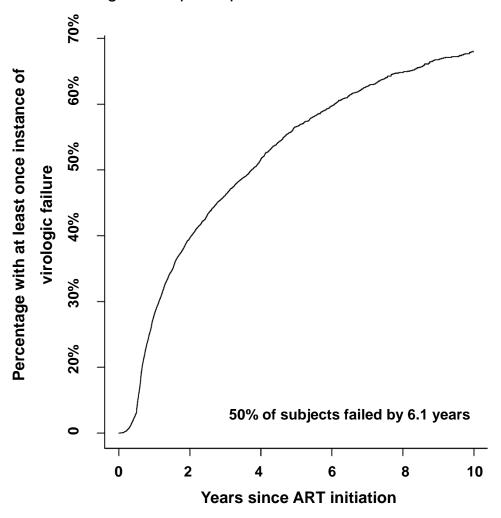
^{*}BMI is at time of CD4+ count measurement (e.g., at after 3 years of ART), irrespective of pre-treatment BMI value

Supplementary Table 3. Clinical characteristics of NA-ACCORD participants maintaining virologic suppression for ≥50% of follow-up, stratified by body mass index at antiretroviral therapy initiation (n=9,796)

Cohort at ART initiation	Underweight <18.5 kg/m² n=350	Normal 18.5-24.9 kg/m² n=4924	Overweight 25-29.9 kg/m ² n=3,102	Obese 30-39.9 kg/m² n=1,212	Morbidly Obese ≥40 kg/m² n=208	p-value
Female, %	10%	10%	14%	30%	66%	<0.001
Race, %						<0.001
White	45%	49%	47%	37%	21%	
Black	33%	30%	31%	46%	62%	
Hispanic/ Other / Unknown	21%	21%	21%	17%	17%	
Age, median years (IQR)	40 (32, 46)	39 (32, 46)	41 (35, 47)	42 (35, 49)	40 (35, 47)	<0.001
CD4 count, median cells/μL (IQR)	81 (22, 238)	223 (77, 352)	264 (146, 392)	281 (167, 422)	339 (241, 520)	<0.001
Calendar year of ART start, median	2005	2005	2005	2006	2007	<0.001
.og ₁₀ HIV viral load, median copies/mL (IQR)	5.1 (4.3, 5.6)	4.8 (4.1, 5.3)	4.6 (3.8, 5.1)	4.5 (3.3, 5.0)	3.9 (2.4, 4.6)	<0.001
First ART regimen, %						<0.001
PI-based	49%	43%	42%	45%	43%	
NNRTI-based	44%	50%	49%	47%	44%	
NRTI-only	3%	5%	6%	5%	5%	
Other	4%	3%	3%	4%	8%	
Prior ADE, %	41%	22%	14%	14%	9%	<0.001
Hepatitis C co-infection, %	11%	12%	12%	12%	9%	0.67

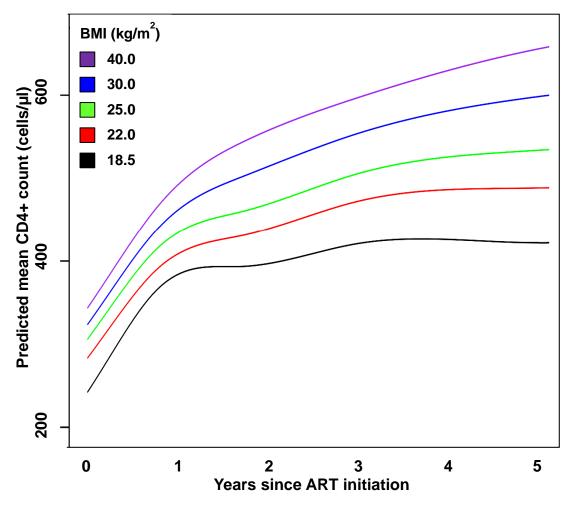
Abbreviations: ADE, AIDS-defining event; ART, antiretroviral therapy; IQR, interquartile range; NRTI, nucleoside reverse transcriptase inhibitor; NNRTI, non-nucleoside reverse transcriptase inhibitor; PI, protease inhibitor

Supplementary Figure 1: Cumulative incidence of virologic failure among cohort participants



Virologic failure defined as the first occurrence of a plasma HIV-1 RNA >1000 copies/ml or at the second of two consecutive measurements between 400 and 999 copies/ml

Supplementary Figure 2. Predicted mean CD4+ cell count over time on antiretroviral therapy, stratified by time-updated body mass index. Cohort includes the 1133 women excluded from the primary analysis due to a >10% weight change over a 6 month period during follow-up (n=15,271 patients)



Predicted mean CD4+ cell counts over 5 years of ART were extracted from the linear mixed effects model at different BMI values. Model is adjusted for time-updated BMI, age, sex, race, initial ART regimen class, year of ART start, cohort, and baseline CD4+ cell count and log₁₀ HIV 1-RNA.