Figure S1. Use of ART, HIV RNA and CD4+ cell count levels in the immediate and deferred ART groups of the Strategic Timing of Antiretroviral Therapy (START) trial, among 4,561 START participants who had both baseline and follow-up quality of life (QOL) data. (A) Percent of participants using ART, and percent of participants with HIV RNA ≤ 200 copies/mL. (B) Change in mean CD4 cell count levels from baseline through follow-up.

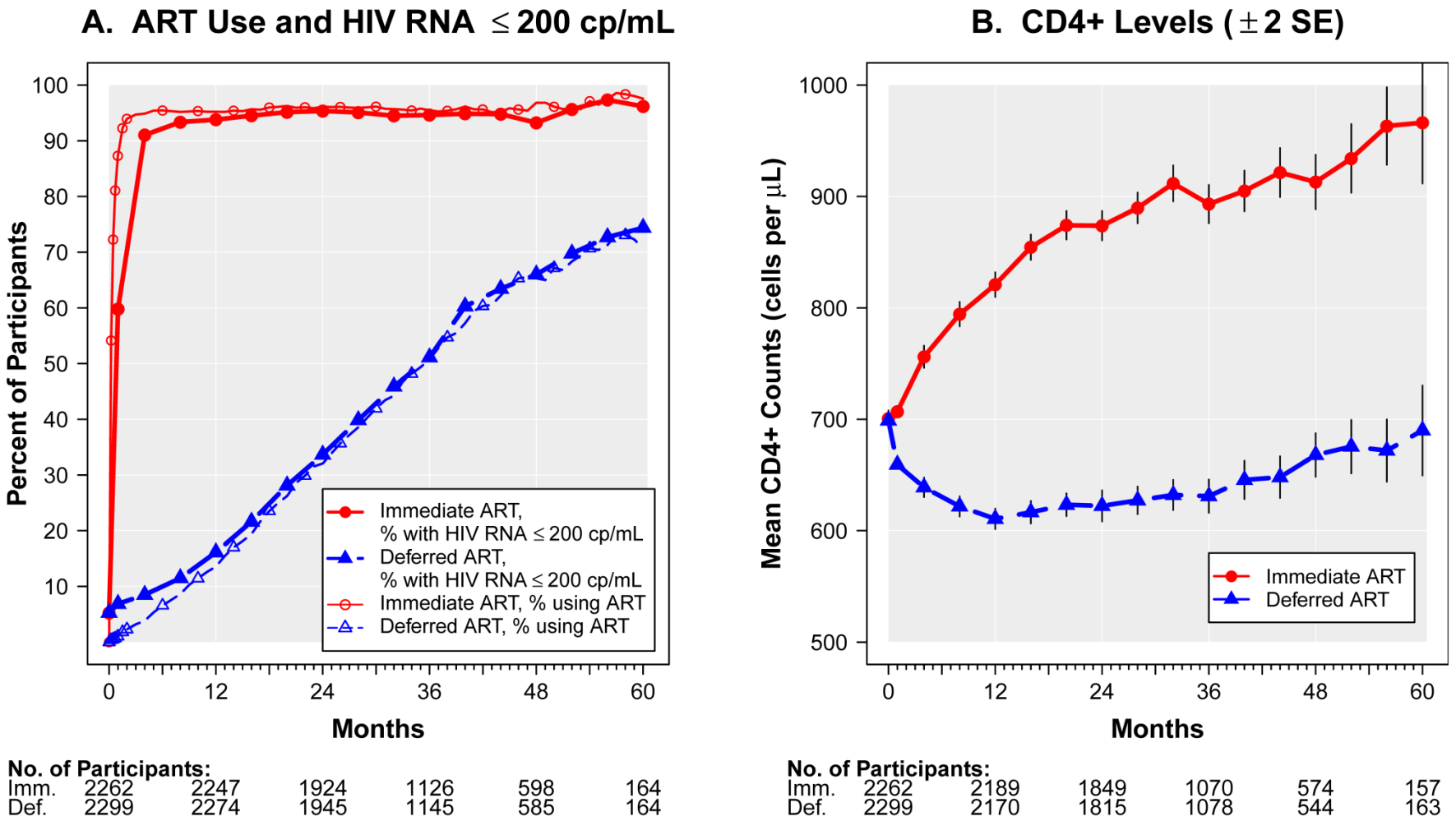
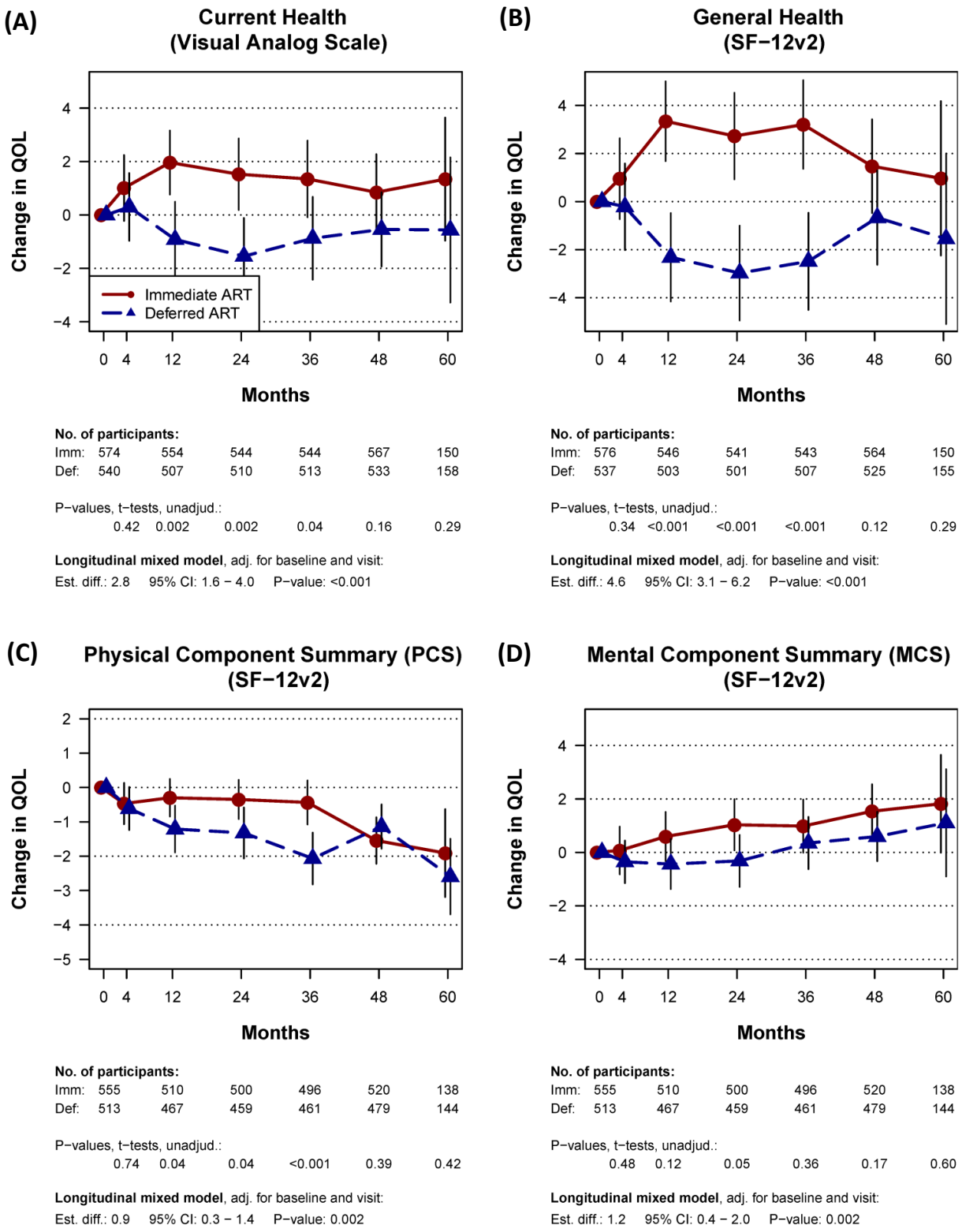
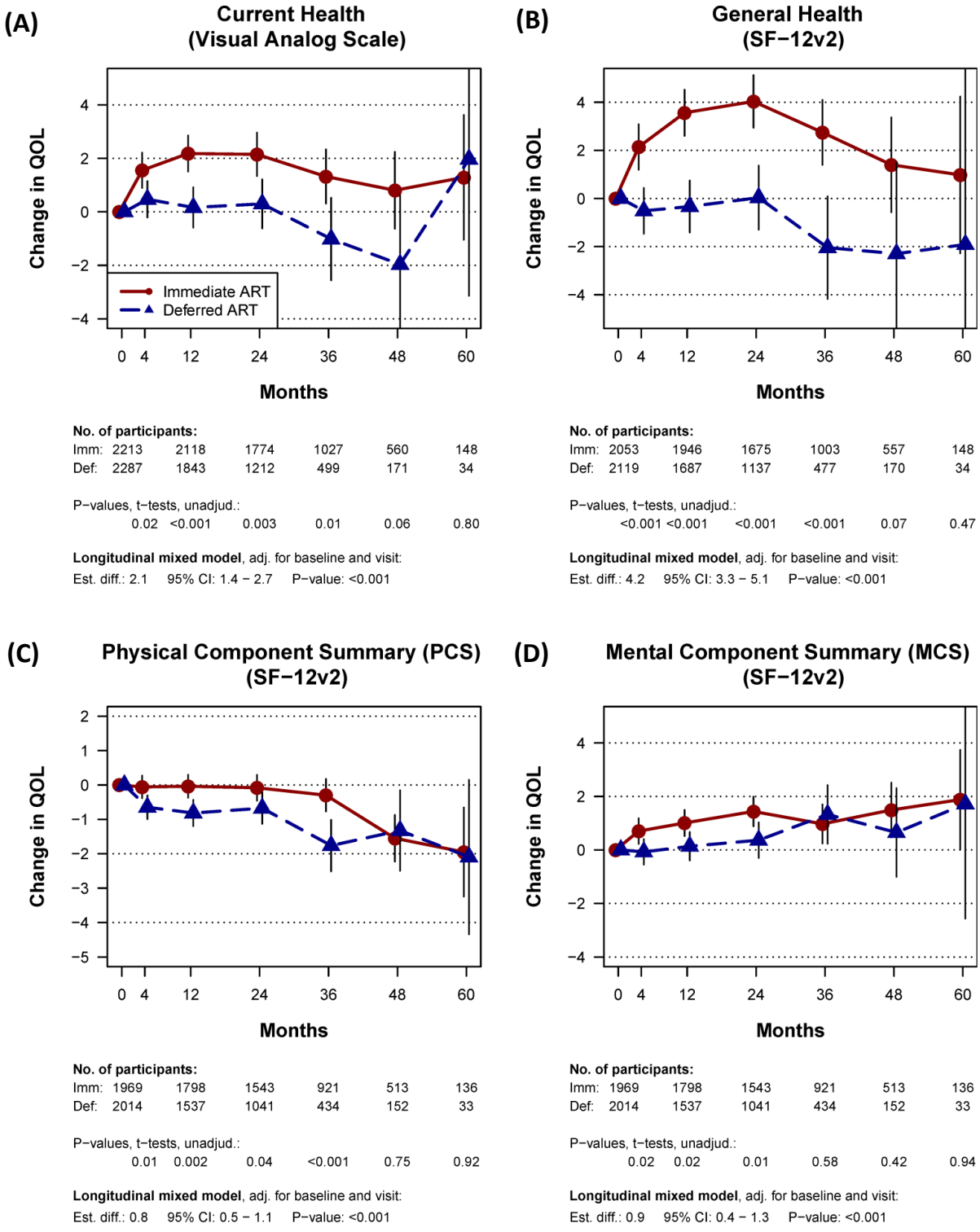


Figure S2. Change in four quality of live (QOL) outcomes in the immediate and deferred ART groups of the Strategic Timing of Antiretrovial Therapy trial, restricted to participants with at least 4 year of follow-up. This analysis was performed to investigate a possible cohort effect. (A) Current health visual analog scale (VAS). (B) General health perception. (C) Physical component score (PCS). (D) Mental component score (MCS).



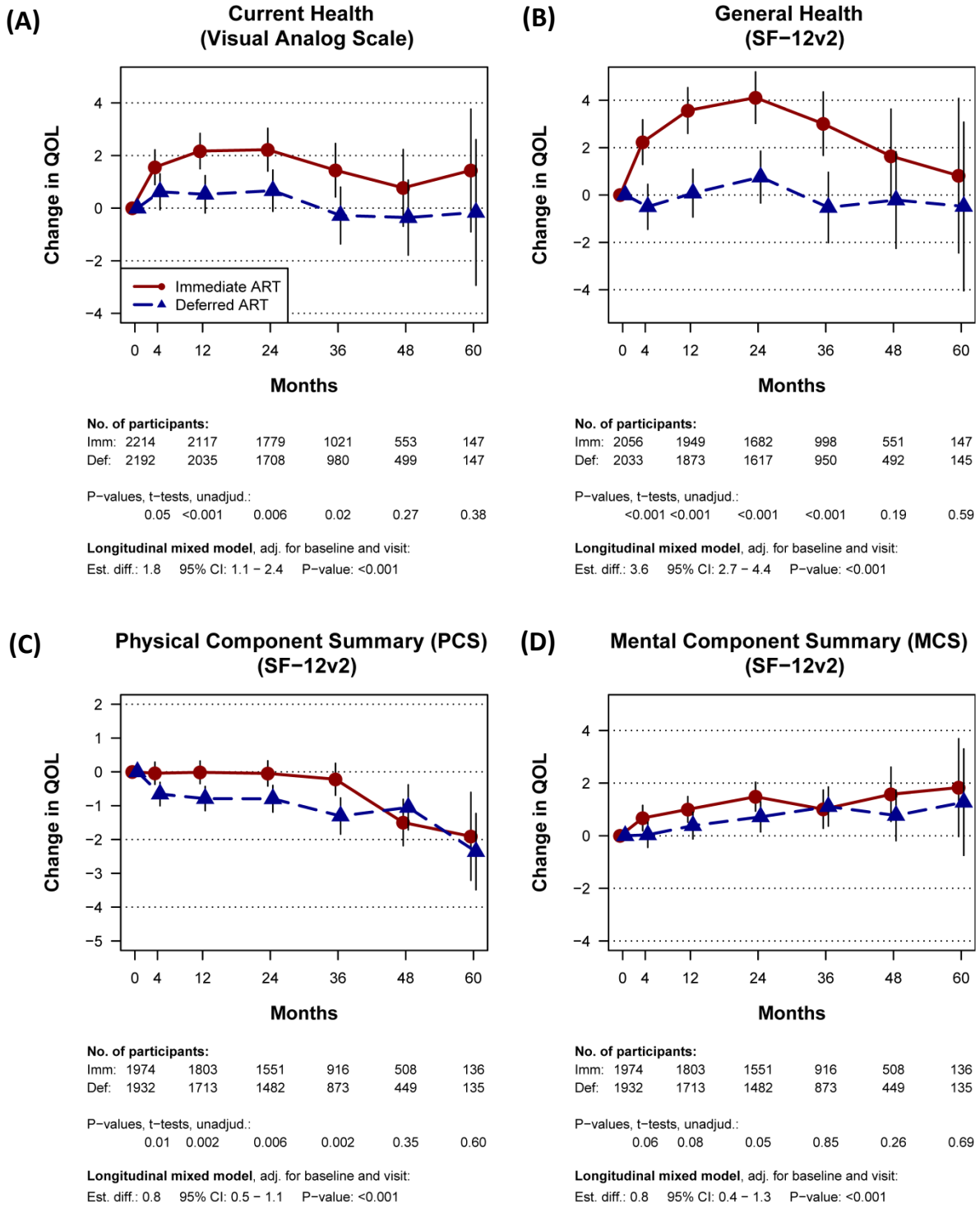
Footnote: Participants marked their "current health" on a visual analog scale (0-100). General health, PCS and MCS were derived from the SF-12v2 survey.

Figure S3. Change in four quality of live (QOL) outcomes in the immediate and deferred ART groups of the Strategic Timing of Antiretrovial Therapy trial. The immediate ART group is restricted to participants who started ART, and for the deferred group, follow-up is censored at ART start. This analysis was performed to compare immediate ART use to no ART; comparisons are not protected by randomization. (A) Current health visual analog scale (VAS). (B) General health perception. (C) Physical component score (PCS). (D) Mental component score (MCS).



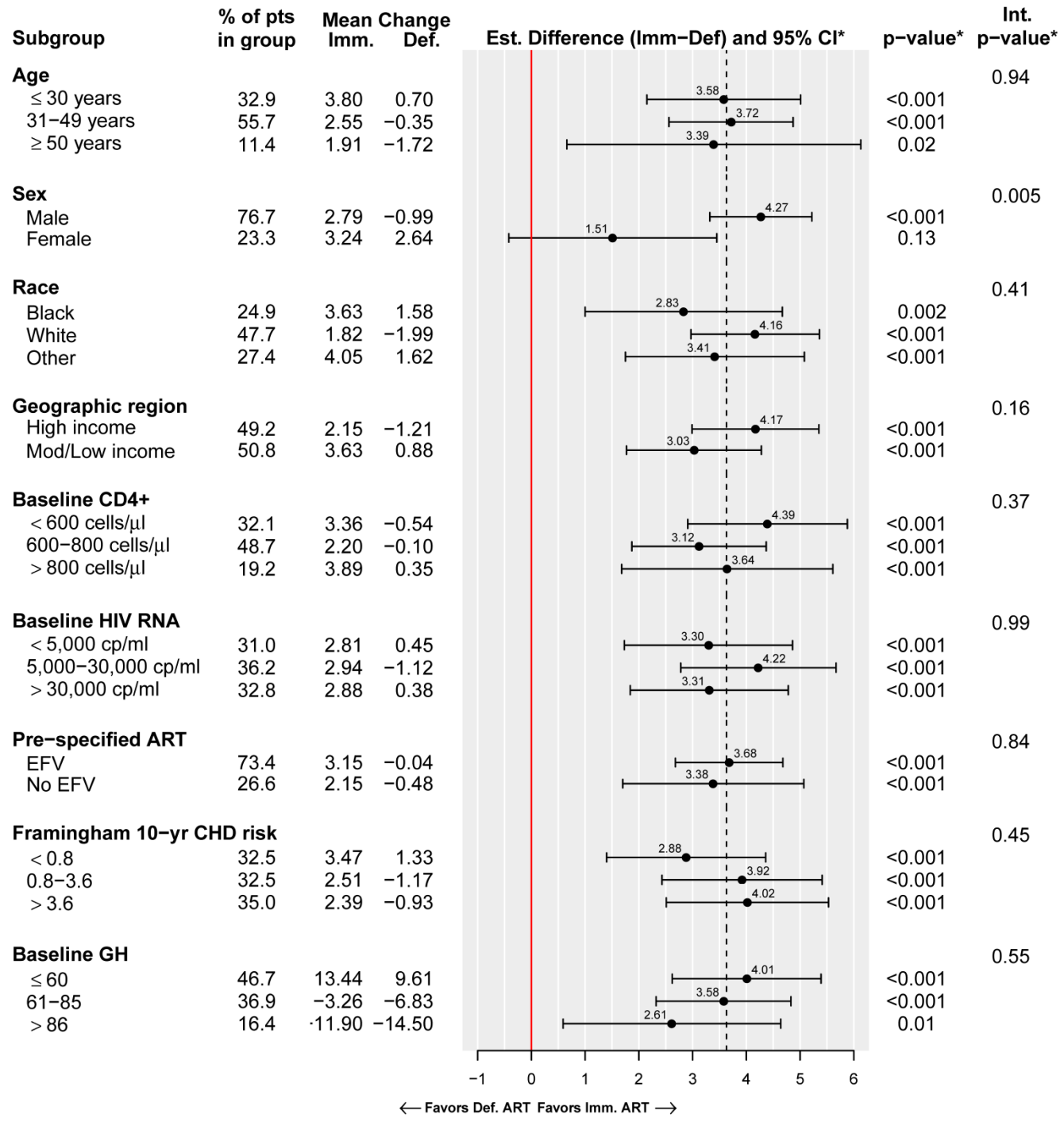
Footnote: Participants marked their "current health" on a visual analog scale (0-100). General health, PCS and MCS were derived from the SF-12v2 survey.

Figure S4. Mean change from baseline in four quality of life (QOL) outcomes in the immediate and deferred ART groups of the Strategic Timing of Antiretroviral Therapy trial, excluding participants who experienced a primary event (serious AIDS, serious non-AIDS illness, or death). Trajectories and treatment differences are similar to those for the full study population, suggesting that the higher QOL in the immediate ART group is not explained by the lower rate of primary events. (A) Current health visual analog scale (VAS). (B) General health perception. (C) Physical component score (PCS). (D) Mental component score (MCS).



Footnote: Participants marked their "current health" on a visual analog scale (0-100). General health, PCS and MCS were derived from the SF-12v2 survey.

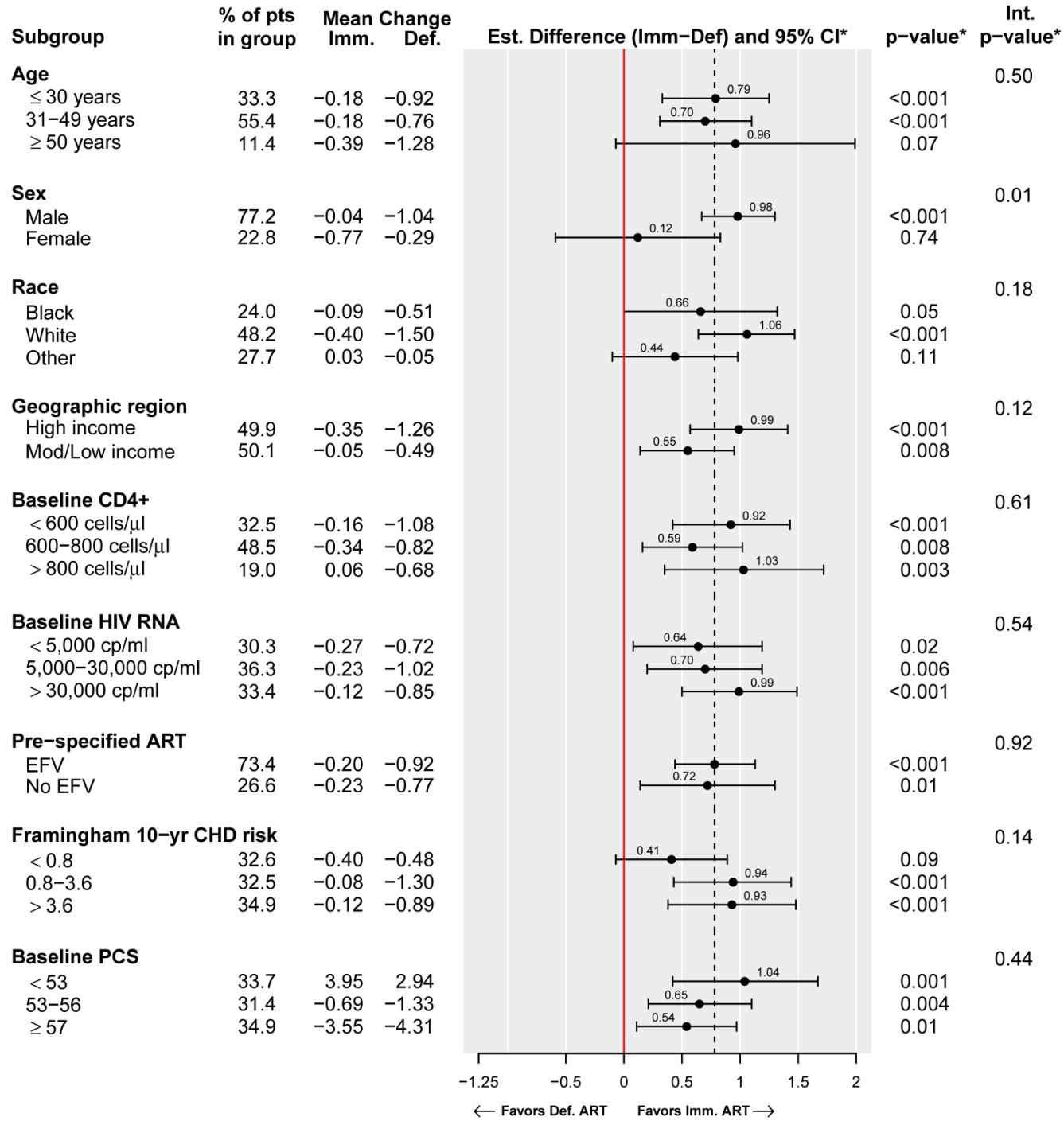
Figure S5A. Subgroup analyses for changes in general health (first item on the SF-12v2, scaled to 0-100), Strategic Timing of Antiretroviral Therapy trial.



Footnotes: * Estimates within each subgroup were calculated using longitudinal mixed models that contained visit, baseline QOL and treatment group indicator. An interaction p-value ≤ 0.05 is evidence for heterogeneity in the treatment effect across the subgroups; the estimates and p-values for the interaction between the treatment group indicator and the participant characteristic defining the subgroups were calculated using longitudinal mixed models that contained baseline QOL, visit, and subgroup and treatment group indicators. For the analysis of subgroups that were formed by discretizing continuous variables (e.g., age), the interaction effect was estimated in a model that contains the continuous variable.

Additionally, the following subgroups by ART type were analyzed: participants whose pre-specified ART regimen contained (or did not contain) protease inhibitors (17.4% of participants), integrase inhibitors (3.7%), tenofovir (81.3%), abacavir (2.9%). Treatment effects were homogeneous across these subgroups.

Figure S5B. Subgroup analyses for changes in the physical component score (PCS; computed from the SF-12v2, scaled to mean 50, SD=10), Strategic Timing of Antiretroviral Therapy trial.

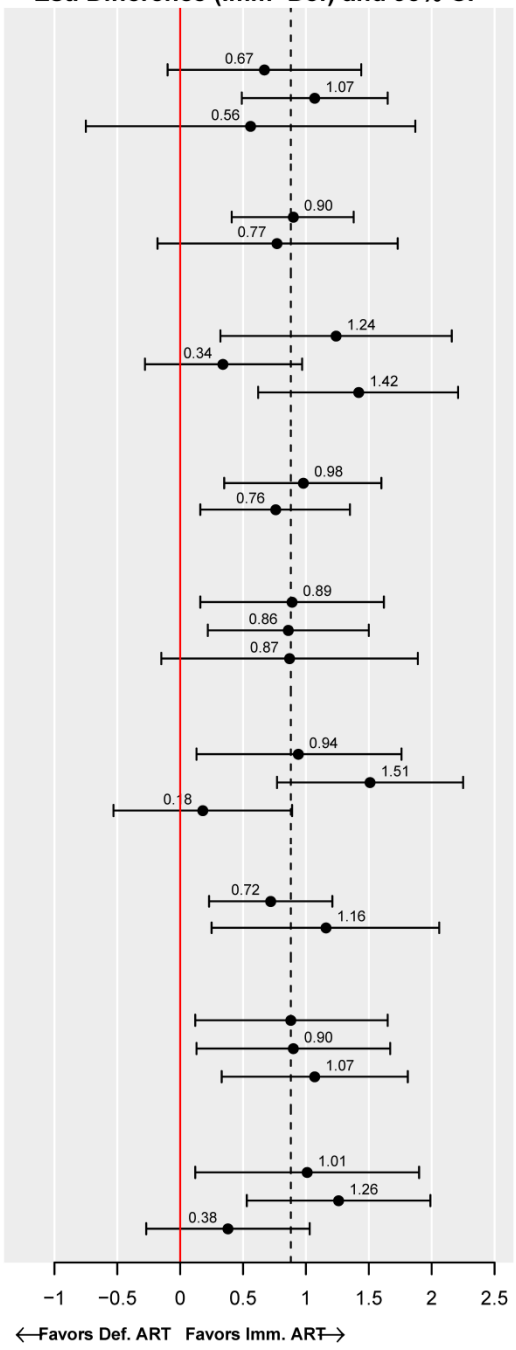


Footnotes: * Estimates within each subgroup were calculated using longitudinal mixed models that contained visit, baseline QOL and treatment group indicator. An interaction p-value ≤ 0.05 is evidence for heterogeneity in the treatment effect across the subgroups; the estimates and p-values for the interaction between the treatment group indicator and the participant characteristic defining the subgroups were calculated using longitudinal mixed models that contained baseline QOL, visit, and subgroup and treatment group indicators. For the analysis of subgroups that were formed by discretizing continuous variables (e.g., age), the interaction effect was estimated in a model that contains the continuous variable.

Additionally, the following subgroups by ART type were analyzed: participants whose pre-specified ART regimen contained (or did not contain) protease inhibitors (16.6% of participants), integrase inhibitors (3.6%), tenofovir (77.7%), abacavir (2.8%). Treatment effects were homogeneous across these subgroups.

Figure S5C. Subgroup analyses for changes in the mental component score (MCS; computed from the SF-12v2, scaled to mean 50, SD=10), Strategic Timing of Antiretroviral Therapy trial.

Subgroup	% of pts in group	Mean Change Imm.	Mean Change Def.	p−value*	Int. p−value*
Age					0.90
≤ 30 years	33.3	1.61	1.21	0.09	
31−49 years	55.4	0.96	0.09	<0.001	
≥ 50 years	11.4	0.01	−0.41	0.40	
Sex					0.85
Male	77.2	1.00	0.36	<0.001	
Female	22.8	1.31	0.57	0.11	
Race					0.09
Black	24.0	1.61	0.32	0.008	
White	48.2	0.43	0.49	0.28	
Other	27.7	1.72	0.31	<0.001	
Geographic region					0.58
High income	49.9	0.53	0.04	0.002	
Mod/Low income	50.1	1.64	0.77	0.01	
Baseline CD4+					0.70
< 600 cells/μl	32.5	1.02	0.46	0.02	
600−800 cells/μl	48.5	1.01	0.37	0.009	
> 800 cells/μl	19.0	1.31	0.38	0.09	
Baseline HIV RNA					0.58
< 5,000 cp/ml	30.3	1.03	0.37	0.02	
5,000−30,000 cp/ml	36.3	1.44	0.22	<0.001	
> 30,000 cp/ml	33.4	0.76	0.64	0.62	
Pre−specified ART					0.29
EFV	73.4	1.22	0.43	0.004	
No EFV	26.6	0.66	0.35	0.01	
Framingham 10−yr CHD risk					0.94
< 0.8	32.6	1.53	1.00	0.02	
0.8−3.6	32.5	1.22	0.74	0.02	
> 3.6	34.9	0.53	−0.53	0.005	
Baseline MCS					0.28
< 44	31.7	7.71	7.30	0.03	
44−53	32.3	0.53	−0.81	<0.001	
≥ 54	35.9	−4.13	−4.68	0.25	



Footnotes: * Estimates within each subgroup were calculated using longitudinal mixed models that contained visit, baseline QOL and treatment group indicator. An interaction p-value ≤ 0.05 is evidence for heterogeneity in the treatment effect across the subgroups; the estimates and p-values for the interaction between the treatment group indicator and the participant characteristic defining the subgroups were calculated using longitudinal mixed models that contained baseline QOL, visit, and subgroup and treatment group indicators. For the analysis of subgroups that were formed by discretizing continuous variables (e.g., age), the interaction effect was estimated in a model that contains the continuous variable.

Additionally, the following subgroups by ART type were analyzed: participants whose pre-specified ART regimen contained (or did not contain) protease inhibitors (16.6% of participants), integrase inhibitors (3.6%), tenofovir (77.7%), abacavir (2.8%). Treatment effects were homogeneous across these subgroups.