

Supplemental data

Table S1. Change in adherence over time (2001-2010)

N-person-years=82,217

Model	Time	Unadjusted estimate	Adjusted estimate
Model 1:	Per 1- year interval	0.07 (0.04, 0.10)	0.08 (0.04, 0.12)
Model 2:	Per 2- year interval	0.09 (0.03, 0.15)	0.13 (0.05, 0.20)
Model 3:	2006-11 vs. 2001-05	0.18 (0.001, 0.36)	0.16 (-0.04, 0.36)

[&]Adjusted for age, race, alcohol abuse, major depression, drug abuse, time since first HAART initiation

Table S2. HIV RNA suppression by adherence category (odds ratios and 95% CI)

N person-years=46,291*

Adherence (%)	Unadjusted estimate	PS-weighted estimate^o
<50	0.26 (0.20, 0.34)	0.39 (0.26, 0.58)
50-74	0.36 (0.33, 0.39)	0.45 (0.39, 0.52)
75-79	0.51 (0.45, 0.58)	0.55 (0.46, 0.67)
80-84	0.66 (0.59, 0.74)	0.69 (0.58, 0.82)
85-89	0.77 (0.70, 0.85)	0.79 (0.67, 0.92)
90-94	0.94 (0.86, 1.03)	1.05 (0.91, 1.21)

*Excluding those with only one person-year; ^oAverage treatment effect obtained using propensity score, and included as a covariate in model: PS= P(receiving an NNRTI-based regimen=1)| age, race, geographical location, time since first HAART initiation, lagged CD4, lagged HIV RNA, lagged drug abuse, lagged alcohol abuse, lagged major depression), interaction between type of HAART regimen and adherence category

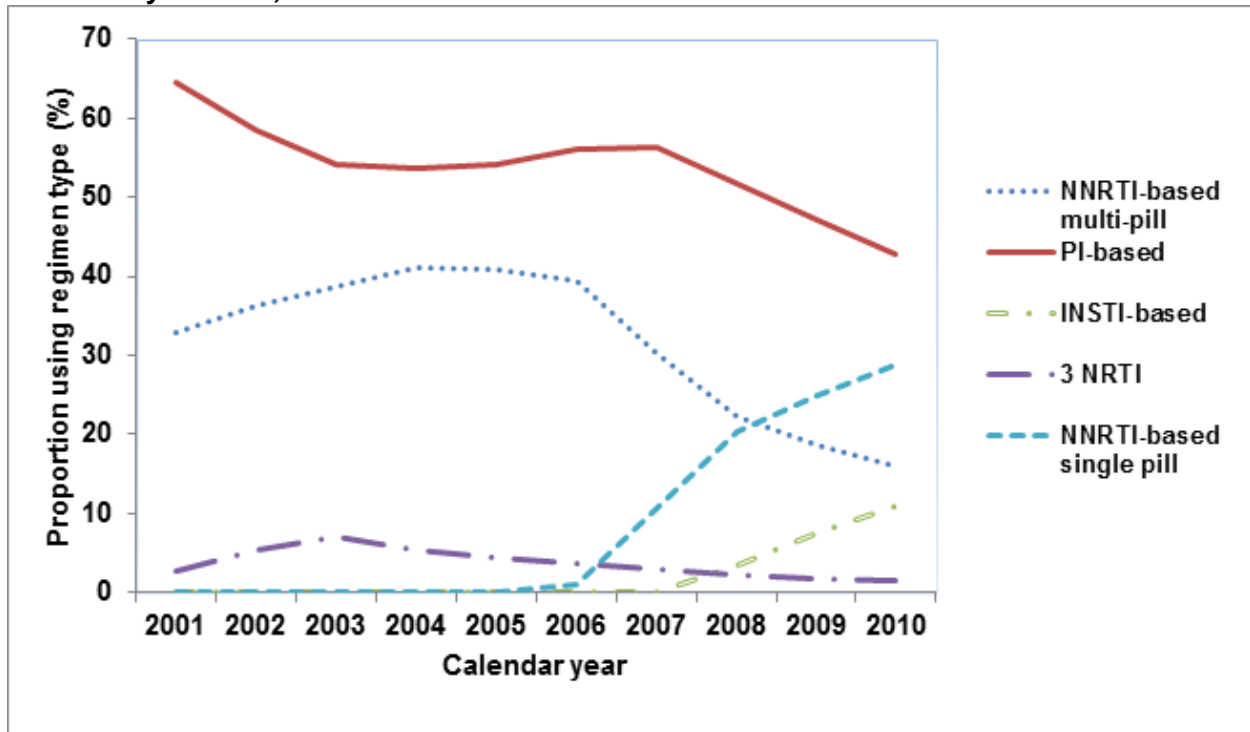
Table S3. Sensitivity analyses: HIV RNA suppression by adherence category (odds ratios and 95% CI)*

Adherence (%)	PS-weighted estimate First HAART N person-years: 6,937[#]	PS-weighted estimate ≥270 days N person-years:34,572[#]	PS-weighted estimate ≥330 days N person-years:21,756[#]
<75	0.58 (0.46, 0.73)	0.44 (0.36, 0.54)	0.49 (0.31, 0.76)
75-79	0.72 (0.51, 1.01)	0.62 (0.52, 0.74)	0.65 (0.42, 1.03)
80-84	1.02 (0.76, 1.37)	0.77 (0.67, 0.88)	0.95 (0.70, 1.30)
85-89	0.96 (0.74, 1.25)	0.87 (0.78, 0.98)	1.02 (0.83, 1.24)
90-94	1.18 (0.93, 1.49)	0.95 (0.86, 1.06)	1.04 (0.91, 1.19)

Excluding those with only one person-year; [#] Average treatment effect obtained using propensity score, and included as a covariate in model: PS= P(receiving an NNRTI-based regimen=1)| age, race, geographical location, lagged CD4, lagged HIV RNA, lagged drug abuse, lagged alcohol abuse, lagged major depression)

Figure S1. Regimen use over time (2001-2010)

N Person-years: 82,217



^NNRTI-based regimen excludes single pill regimen

Figure S2. Distribution of $\geq 95\%$ adherence by regimen type and daily dosing

N person-years: 82,217

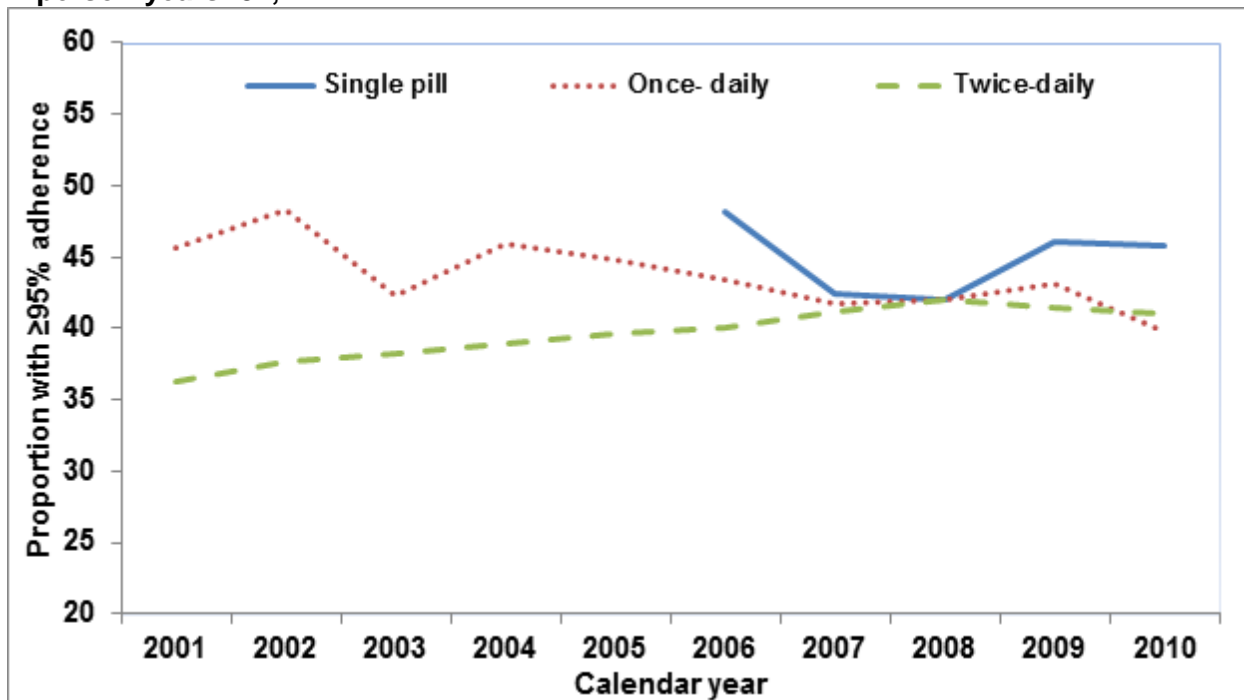
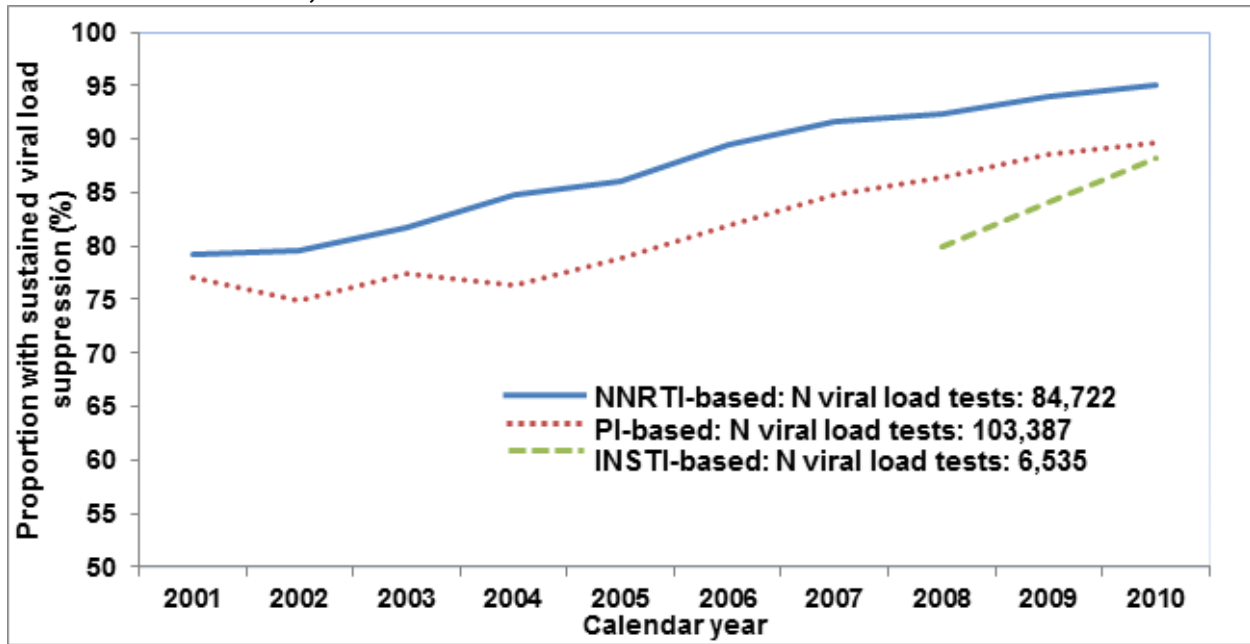


Figure S3. Proportion of person-years with sustained viral load suppression (2001-2010)*

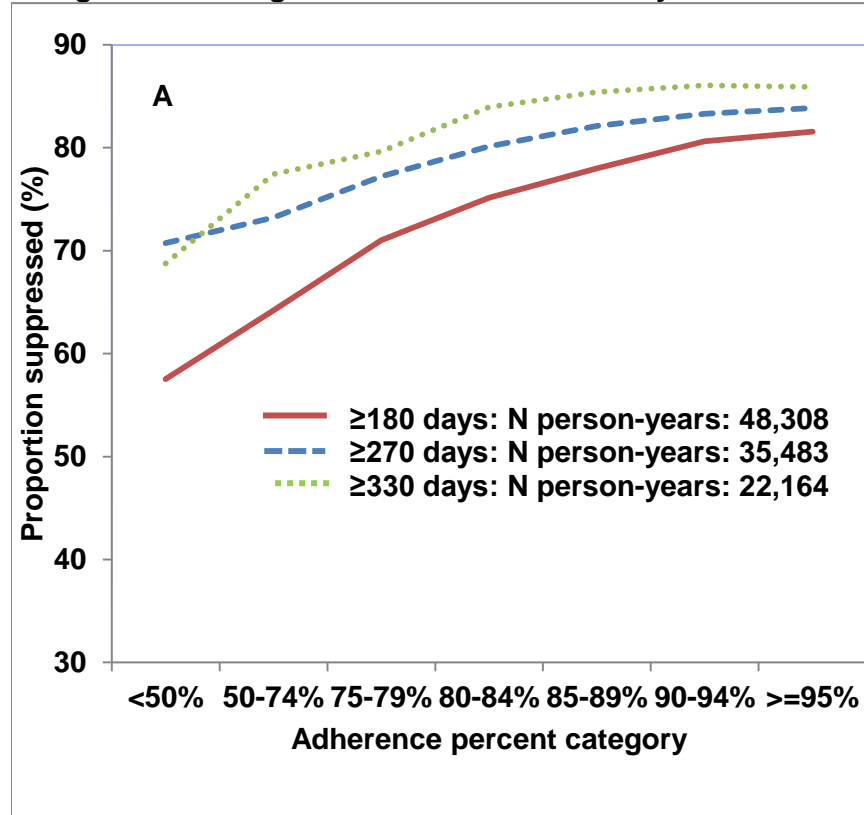
N viral load tests=200,942



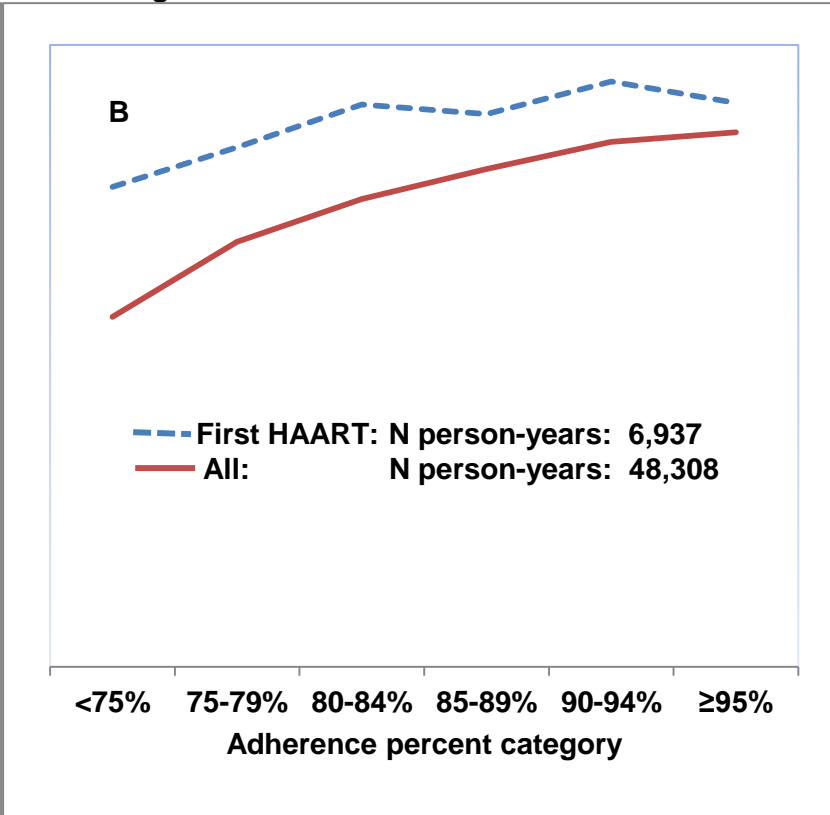
*Among persons with more than one viral load test in a year and persons with the first viral load test suppressed

Figure S4. Sensitivity analysis: suppression according to adherence

Using different lengths of time on HAART in a year



Restricting to first HAART



Supplementary Figure captions



Figure S1. Regimen use over time (2001-2010). The HAART regimen is the most frequently refilled regimen for each person-year. Single pill use is 2006-2010, and INSTI-based regimen use is 2008-2010. The HAART regimens can be identified as: dark blue line for NNRTI-based multiple pill, — red line for PI-based regimen, - - - light blue line for NNRTI-based single pill, = = = green line for INSTI-based regimen, and — purple line for 3 NRTI. 82,217 person-years were used for this analysis.

Figure S2. Distribution of $\geq 95\%$ adherence by regimen type and daily dosing. The distribution of $\geq 95\%$ adherence by the frequency of daily dose. The HAART regimen is the most frequently refilled regimen for each person-year. The type of daily dosing of HAART regimens can be identified as: — blue line for NNRTI-based single pill regimens, red line for a once-daily regimen, - - - green line for a twice-daily regimen.

Figure S3. Proportion of person-years with sustained viral load suppression (2001-2010). The proportion of person-years with sustained viral load suppression among persons with more than one viral load test in a year and persons with the first viral load test suppressed, by type of HAART regimen. The HAART regimen is the most frequently refilled regimen for each person-year. The HAART regimens can be identified as: — blue line for NNRTI-based regimens, red line for PI-based regimen, and - - - green line for INSTI-based regimen. NNRTI-based regimen includes single pill and multi-pill regimens.

Figure S4A. Sensitivity analysis: suppression according to adherence. The proportion of person-years suppressing HIV RNA using different lengths of time on HAART in a year. The lengths of time can be identified as: — red line for ≥ 180 days, - - - blue line for ≥ 270 days, and green line for ≥ 330 days.

Figure S4B. Sensitivity analysis: suppression according to adherence. The proportion of person-years suppressing HIV RNA restricting to their year on the first HAART regimen. The

groups can be identified as:  blue line for person-years on first HAART, and  red line for all person-years.