Supplemental table 1. Univariable and multivariable competing-risk regression analyses for CD4 recovery among all individuals. The events “virologic failure”, “lost to follow-up”, and “death” were considered to be competing risks. (n = 8431)

| **Characteristics at cART2 initiation** | **N (%)** | **Individuals with CD4 recovery after 6 years of follow-up [%]** | **Univariable analysis****[sHR1 (95% CI)]** | **Multivariable analysis****[sHR1 (95% CI)]** | **P-value** |
| --- | --- | --- | --- | --- | --- |
| **Age (years)***15-29*30-3940-4950-59≥ 60 | 1676 (19.9)2908 (34.5)2400 (28.5)1021 (12.1)426 (5.1) | 64.964.359.853.545.1 | 10.94 (0.87-1.01)0.83 (0.77-0.90)0.71 (0.64-0.78)0.58 (0.50-0.68) | 11.07 (0.98-1.15)1.00 (0.92-1.08)0.89 (0.80-0.99)0.69 (0.59-0.80) | < 0.001 |
| **Gender, origin, and HIV transmission**Men who have sex with menOther men from SSA3*Other men*Women from SSA3Other women | 3434 (40.7)726 (8.6)1482 (17.6)1553 (18.4)1236 (14.7) | 71.042.052.952.763.4 | 1.62 (1.50-1.76)0.70 (0.61-0.80)10.99 (0.90-1.10)1.33 (1.21-1.47) | 1.13 (1.04-1.23)0.69 (0.61-0.79)10.86 (0.77-0.96)1.16 (1.05-1.28) | < 0.001 |
| **HCV**Positive*Negative* | 443 (5.3)7988 (94.7) | 55.561.1 | 0.80 (0.71-0.90)1 | 0.85 (0.74-0.96)1 | 0.009 |
| **HBs antigen**Positive*Negative* | 356 (4.2)8075 (95.8) | 47.261.5 | 0.66 (0.56-0.76)1 | 0.84 (0.72-0.98)1 | 0.030 |
| **AIDS***No*Yes | 7300 (86.6)1131 (13.4) | 64.934.6 | 10.39 (0.35-0.43) | 10.88 (0.78-0.99) | 0.028 |
| **Primary HIV infection***No*Yes | 8174 (97.0)257 (3.0) | 60.475.5 | 11.63 (1.41-1.89) | 11.08 (0.93-1.26) | 0.319 |
| **CD4 cell count (/mm3)***< 100*≥ 100 and < 200≥ 200 and < 350≥ 350 and < 500 | 1321 (15.7)1334 (15.8)3553 (42.1)2223 (26.4) | 21.037.567.987.2 | 12.01 (1.75-2.31)5.11 (4.55-5.75)10.45 (9.26-11.80) | 12.04 (1.76-2.36)5.39 (4.73-6.15)10.84 (9.46-12.42) | <0.001 |
| **HIV-1 viral load (copies/mL)***≤ 5000*> 5000 and ≤ 30 000> 30 000 and ≤ 100 000> 100 000 and ≤ 500 000> 500 000 | 1050 (12.5)2041 (24.2)2352 (27.9)2250 (26.7)738 (8.8) | 57.566.363.456.854.7 | 11.24 (1.13-1.36)1.15 (1.04-1.26)0.97 (0.88-1.07)0.95 (0.84-1.08) | 11.29 (1.16-1.42)1.34 (1.21-1.48)1.54 (1.38-1.71)1.88 (1.63-2.18) | <0.001 |
| **Period of cART2 initiation***2006-2008*2009-20112012-2014 | 3497 (41.5)3045 (36.1)1889 (22.4) | 59.963.658.2 | 11.24 (1.17-1.32)1.36 (1.26-1.46) | 11.02 (0.96-1.09)1.13 (1.04-1.22) | 0.007 |
| **First cART2**1 PI/r4Dual therapy*2 NRTI5 + 1 PI/r4*2 NRTI5 + 1 NNRTI62 NRTI5 + 1 INI74 ARV or more | 113 (1.3)239 (2.8)4695 (55.7)2568 (30.5)443 (5.3)373 (4.4) | 49.667.458.266.961.451.5 | 0.77 (0.58-1.01)1.26 (1.06-1.49)11.15 (1.09-1.22)1.26 (1.11-1.44)0.89 (0.76-1.04) | 0.69 (0.49-0.96)1.11 (0.92-1.34)10.92 (0.87-0.98)1.09 (0.95-1.24)1.05 (0.89-1.24) | 0.004 |
| **Time to viral load suppression8 (per one month)** | **-** | **-** | 1.00 (0.99-1.01) | 1.01 (1.00-1.03) | 0.051 |

1sub-hazard ratio

2combined antiretroviral therapy

3Sub-Saharan Africa

4Ritonavir-boosted protease inhibitor

5nucleoside reverse-transcriptase inhibitor

6non-nucleoside reverse-transcriptase inhibitor

7integrase inhibitor

8Time to viral load suppression is the time from cART initiation to the first viral load < 50 copies/mL of two consecutive measures.