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*  30-39  40-49  50-59  ≥ 60 | 1676 (19.9)  2908 (34.5)  2400 (28.5)  1021 (12.1)  426 (5.1) | 64.9  64.3  59.8  53.5  45.1 | 1  0.94 (0.87-1.01)  0.83 (0.77-0.90)  0.71 (0.64-0.78)  0.58 (0.50-0.68) | 1  1.07 (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 men  Other men from SSA3  *Other men*  Women from SSA3  Other women | 3434 (40.7)  726 (8.6)  1482 (17.6)  1553 (18.4)  1236 (14.7) | 71.0  42.0  52.9  52.7  63.4 | 1.62 (1.50-1.76)  0.70 (0.61-0.80)  1  0.99 (0.90-1.10)  1.33 (1.21-1.47) | 1.13 (1.04-1.23)  0.69 (0.61-0.79)  1  0.86 (0.77-0.96)  1.16 (1.05-1.28) | < 0.001 |
| **HCV**  Positive  *Negative* | 443 (5.3)  7988 (94.7) | 55.5  61.1 | 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) | 47.2  61.5 | 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) | 64.9  34.6 | 1  0.39 (0.35-0.43) | 1  0.88 (0.78-0.99) | 0.028 |
| **Primary HIV infection**  *No*  Yes | 8174 (97.0)  257 (3.0) | 60.4  75.5 | 1  1.63 (1.41-1.89) | 1  1.08 (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) | 21.0  37.5  67.9  87.2 | 1  2.01 (1.75-2.31)  5.11 (4.55-5.75)  10.45 (9.26-11.80) | 1  2.04 (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) | 57.5  66.3  63.4  56.8  54.7 | 1  1.24 (1.13-1.36)  1.15 (1.04-1.26)  0.97 (0.88-1.07)  0.95 (0.84-1.08) | 1  1.29 (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*  2009-2011  2012-2014 | 3497 (41.5)  3045 (36.1)  1889 (22.4) | 59.9  63.6  58.2 | 1  1.24 (1.17-1.32)  1.36 (1.26-1.46) | 1  1.02 (0.96-1.09)  1.13 (1.04-1.22) | 0.007 |
| **First cART2**  1 PI/r4  Dual therapy  *2 NRTI5 + 1 PI/r4*  2 NRTI5 + 1 NNRTI6  2 NRTI5 + 1 INI7  4 ARV or more | 113 (1.3)  239 (2.8)  4695 (55.7)  2568 (30.5)  443 (5.3)  373 (4.4) | 49.6  67.4  58.2  66.9  61.4  51.5 | 0.77 (0.58-1.01)  1.26 (1.06-1.49)  1  1.15 (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)  1  0.92 (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.