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| Supplementary Material 1: Characteristics at entry into adolescence (at age 10 years) in adolescents living with perinatally acquired HIV (ALPH) who entered HIV care before the age of 10 years (N=16,229) | | | |
| Characteristics at entry into adolescence | **n/N\*** | **First visit aged <10 years** | |
| Year of 10th birthday, median (IQR) | 16,229/16,229 | 2012 | (2010 – 2014) |
| <2010, n (%) | 16,229/16,229 | 3668 | (22.6) |
| 2010 to 2013, n (%) | 16,229/16,229 | 6902 | (42.5) |
| 2014 to 2018, n (%) | 16,229/16,229 | 5659 | (34.9) |
| Initiated ART by age 10 years, n (%) | 16,229/16,229 | 14,913 | (91.9) |
| Duration on ART (years), median (IQR) | 14,913/14,913 | 3.1 | (1.4 – 5.3) |
| <2, n (%) |  | 5124 | (34.4) |
| 2 to 5, n (%) |  | 5584 | (37.4) |
| >5, n (%) |  | 4205 | (28.2) |
| Regimen at age 10 years, n (%) | 12,463/14,913 |  |  |
| EFV-based |  | 6210 | (49.8) |
| NVP-based |  | 4944 | (39.7) |
| PI-based |  | 1309 | (10.5) |
| Among those on a PI-based regimen at age 10 years, proportion switched to PI-based regimen before age 10 years, n (%) | 1265\*\*/1309 | 471 | (37.2) |
| CD4 cell count (cells/µL), median (IQR) | 8311/16,229 | 716 | (465 – 1009) |
| <350, n (%) |  | 1325 | (15.9) |
| 350 to 500, n (%) |  | 1041 | (12.5) |
| >500, n (%) |  | 5945 | (71.5) |
| Height-for-age z-score (HAZ), median (IQR) | 8459/16,229 | -1.64 | (-2.41 – -0.91) |
| ≤-2, n (%) |  | 3199 | (37.8) |
| Weight-for-age z-score (WAZ), median (IQR) | 9381/16,229 | -1.33 | (-2.07 – -0.63) |
| ≤-2, n (%) |  | 2549 | (27.2) |
| Body mass index-for-age z-score (BAZ), median (IQR) | 8483/16,229 | -0.45 | (-1.14 – 0.21) |
| ≤-2, n (%) |  | 732 | (8.6) |
| Body mass index (kg/m2), median (IQR) | 8455/16,229 | 15.7 | (14.7 – 16.9) |
| HIV-RNA viral load done\*\*\*, n (%) | 7331/7331 | 5327 | (72.7) |
| HIV-RNA viral load\*\*\* (copies/mL), n (%) | 5327/7331 |  |  |
| ≤400 |  | 4157 | (78.0) |
| >400 |  | 1170 | (22.0) |
| ART – Antiretroviral Therapy; EFV – Efavirenz; NVP – Nevirapine; PI – Protease inhibitor  \*n/N – number with non-missing observations in which measure assessed over total number that should be assessed  \*\* Proportion assessed in adolescents on PI-based regimen at 10 years of age and with regimen data available at ART start and at age 10 years  \*\*\* proportion with HIV-RNA viral load measures assessed only in adolescents on ART by the age of 10 years and in care within facilities with routine annual viral load testing | | | |

**Supplementary material 2:** Proportion of ALPH virally suppressed across various ages during adolescence by age of enrolment into HIV care (<10 vs. 10-13 years)

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| **Age (years)** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** | **19** |
| N† | 7426 | 6954 | 6477 | 5080 | 3714 | 2810 | 1984 | 1299 | 752 |
| n (%) with a viral load measure | 5126 (69%) | 4759 (68%) | 4503 (69%) | 3819 (75%) | 2945 (79%) | 2269 (81%) | 1611 (81%) | 1064 (82%) | 615 (82%) |
| Proportion virally suppressed‡ | 77% | 74% | 72% | 70% | 67% | 66% | 68% | 67% | 69% |
| *Enrolled aged <10 years* | *78%* | *76%* | *75%* | *70%* | *66%* | *66%* | *68%* | *65%* | *67%* |
| *Enrolled aged 10-13 years* | *63%* | *67%* | *67%* | *70%* | *67%* | *65%* | *67%* | *69%* | *69%* |
| † Total number eligible for each age  ‡ Viral suppression defined as HIV-RNA ≤400 copies/mL | | | | | | | | | |