Information required:

**AGE:** Current age (years)

**CD4:** Concurrent CD4 count (cells/µL)

**VL:** Concurrent HIV viral load (copies/mL)

**HEPATITIS:** Hepatitis coinfecion

- 1 = No
- 2 = Yes

**STAGE:** Disease stage

- 1 = CDC category A
- 2 = TB with or without other ADI
- 3 = Non-TB ADI

**TIME:** Time since initiation of combination antiretroviral treatment

- 1: > 6 to ≤ 12 months
- 2: > 12 to ≤ 18 months
- 3: > 18 to ≤ 24 months
- 4: > 24 or more months

CD4 slope (cells/µL per year)

\[ CD4 \text{ slope} = 205.5 + (-4.8) \times \left( \frac{\text{AGE}}{10} \right) + (1.9) \times \left( \frac{\text{CD4}}{100} \right) + (-40.5) \times \left( \log_{10}(\text{VL}) \right) + \left\{ \begin{array}{ll}
0 & \text{if } \text{STAGE} = 1 \\
26.3 & \text{if } \text{STAGE} = 2 \\
12.0 & \text{if } \text{STAGE} = 3 \\
0 & \text{if } \text{TIME} = 1 \\
-21.5 & \text{if } \text{TIME} = 2 \\
-25.8 & \text{if } \text{TIME} = 3 \\
-59.1 & \text{if } \text{TIME} = 4 \\
\end{array} \right. + (-17.7) \times \left( \frac{\text{HEPATITIS}}{10} \right) \]

For example, if a patient is 30 years old (i.e. AGE = 30), concurrent CD4 250 cells/µL (i.e. CD4 = 250), HIV VL 5000 copies/mL (i.e. VL=5000), no coinfection (i.e. HEPATITIS = 1), no ADI (i.e. STAGE = 1), and started cART 15 months ago (i.e. TIME = 2), the estimated CD4 slope would then be:

\[ 205.5 + (-4.8) \times (30/10) + (1.9) \times (250 / 100) + (-40.5) \times (\log_{10}(5000)) + (0) + (0) + (-21.5) = 24.5 \text{ cells/µL per year} \]