**Supplementary Table S1**  Crude mortality rates (per 100 person years) with 95% confidence intervals for Southern Africa (cohorts with no linkage).

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 22.94 (19.62-26.53) | 12.83(10.93-15.03) | 8.19 (6.98-9.47) | 4.87(4.11-5.77) | 3.8(3.18-4.54) | 4.21(3.31-5.14) | 4.72(3.51-6.12) | 17.07(14.63-19.44) | 9.55(8.11-11.01) | 6.09(5.25-6.99) | 3.62(3.06-4.26) | 2.82(2.39-3.33) | 3.13(2.5-3.77) | 3.51(2.62-4.48) |
|  *25-34 years* | 23.2(20.74-25.87) | 12.98(11.45-14.51) | 8.28(7.44-9.19) | 4.93(4.28-5.64) | 3.84(3.37-4.36) | 4.25(3.46-5.1) | 4.77(3.66-6.08) | 17.26(15.5-19.11) | 9.65(8.65-10.73) | 6.16(5.6-6.76) | 3.66(3.22-4.15) | 2.86(2.54-3.22) | 3.16(2.61-3.75) | 3.55(2.75-4.48) |
|  *35-44 years* | 23.25(20.92-25.79) | 13(11.67-14.5) | 8.29(7.49-9.17) | 4.94 (4.3-5.65) | 3.85 (3.37-4.38) | 4.26 (3.46-5.14) | 4.78 (3.64-6.09) | 17.29 (15.48-19.29) | 9.67 (8.7-10.7) | 6.17 (5.59-6.81) | 3.67 (3.22-4.18) | 2.86 (2.51-3.23) | 3.17 (2.6-3.76) | 3.56 (2.75-4.49) |
|  *45+ years* | 27.77 (24.72-30.91) | 15.53 (13.91-17.38) | 9.91 (8.87-11) | 5.9 (5.14-6.8) | 4.6 (4-5.29) | 5.09 (4.07-6.15) | 5.71 (4.34-7.25) | 20.66 (18.26-23.43) | 11.55 (10.18-13.07) | 7.37 (6.59-8.26) | 4.39 (3.79-5.05) | 3.42 (2.95-3.94) | 3.79 (3.04-4.55) | 4.25 (3.25-5.4) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 6.97 (5.83-8.26) | 4.96 (4.18-5.8) | 3.79 (3.23-4.37) | 3.08 (2.63-3.6) | 2.79 (2.34-3.27) | 3.05 (2.45-3.78) | 3.13 (2.3-4.13) | 4.23 (3.53-5.06) | 3.01 (2.55-3.57) | 2.3 (1.98-2.66) | 1.87 (1.62-2.17) | 1.69 (1.45-1.95) | 1.85 (1.49-2.28) | 1.9 (1.4-2.46) |
|  *25-34 years* | 6.07 (5.19-6.96) | 4.32 (3.73-4.92) | 3.3 (2.89-3.73) | 2.68 (2.3-3.05) | 2.43 (2.07-2.78) | 2.65 (2.16-3.21) | 2.72 (2.01-3.5) | 3.68 (3.12-4.26) | 2.62 (2.29-3.01) | 2 (1.75-2.25) | 1.63 (1.43-1.83) | 1.47 (1.28-1.66) | 1.61 (1.31-1.92) | 1.65 (1.23-2.13) |
|  *35-44 years* | 5.75 (4.94-6.6) | 4.09 (3.55-4.67) | 3.12 (2.77-3.53) | 2.54 (2.2-2.89) | 2.3 (1.97-2.61) | 2.51 (2.05-3.03) | 2.58 (1.92-3.32) | 3.48 (2.97-4.08) | 2.48 (2.14-2.86) | 1.89 (1.67-2.14) | 1.54 (1.33-1.76) | 1.39 (1.21-1.58) | 1.52 (1.24-1.84) | 1.56 (1.17-2) |
|  *45+ years* | 7.25 (6.16-8.41) | 5.16 (4.47-5.9) | 3.94 (3.44-4.48) | 3.21 (2.78-3.69) | 2.9 (2.49-3.36) | 3.17 (2.59-3.87) | 3.25 (2.39-4.22) | 4.39 (3.68-5.17) | 3.13 (2.7-3.63) | 2.39 (2.08-2.72) | 1.94 (1.69-2.24) | 1.76 (1.51-2.03) | 1.92 (1.58-2.35) | 1.97 (1.46-2.55) |
| **>12 months after ART initiation** |
|  *15-24 years* | 3.64 (3.07-4.26) | 2.59 (2.19-3.03) | 1.98 (1.7-2.27) | 1.61 (1.37-1.85) | 1.45 (1.23-1.67) | 1.59 (1.29-1.96) | 1.63 (1.2-2.16) | 2.2 (1.87-2.61) | 1.57 (1.34-1.85) | 1.2 (1.03-1.37) | 0.97 (0.84-1.12) | 0.88 (0.76-1.01) | 0.96 (0.78-1.18) | 0.99 (0.73-1.3) |
|  *25-34 years* | 3.16 (2.73-3.59) | 2.25 (1.96-2.57) | 1.72 (1.52-1.93) | 1.4 (1.2-1.6) | 1.27 (1.08-1.45) | 1.38 (1.13-1.67) | 1.42 (1.02-1.84) | 1.92 (1.66-2.21) | 1.36 (1.2-1.56) | 1.04 (0.93-1.16) | 0.85 (0.74-0.95) | 0.77 (0.67-0.86) | 0.84 (0.7-1.01) | 0.86 (0.64-1.11) |
|  *35-44 years* | 2.99 (2.62-3.4) | 2.13 (1.89-2.41) | 1.63 (1.47-1.8) | 1.32 (1.17-1.5) | 1.2 (1.03-1.36) | 1.31 (1.08-1.56) | 1.34 (1-1.76) | 1.82 (1.58-2.09) | 1.29 (1.14-1.47) | 0.99 (0.88-1.11) | 0.8 (0.71-0.91) | 0.73 (0.63-0.82) | 0.79 (0.66-0.95) | 0.81 (0.61-1.05) |
|  *45+ years* | 3.78 (3.28-4.31) | 2.69 (2.36-3.05) | 2.05 (1.83-2.3) | 1.67 (1.47-1.89) | 1.51 (1.3-1.73) | 1.65 (1.37-2) | 1.69 (1.26-2.23) | 2.29 (1.98-2.66) | 1.63 (1.43-1.86) | 1.25 (1.11-1.41) | 1.01 (0.89-1.15) | 0.92 (0.8-1.03) | 1 (0.83-1.22) | 1.03 (0.76-1.35) |

**Supplementary Table S2** Crude mortality rates (per 100 person years) with 95% confidence intervals for East Africa (all cohorts).

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 23.78 (1.46-2.38) | 11.53 (2.95-4.84) | 6.62 (5.24-7.29) | 4.46 (0.42-0.85) | 2.93 (0.63-1.29) | 3.71 (0.78-1.34) | 4.2 (0.64-1.05) | 14.9 (0.92-1.31) | 7.22 (1.87-2.39) | 4.14 (0.58-0.87) | 2.8 (0.54-0.83) | 1.84 (1.54-2.11) | 2.33 (0.39-0.57) | 2.63 (0.91-1.37) |
|  *25-34 years* | 22.7 (1.24-1.98) | 11.01 (1.84-2.59) | 6.32 (0.39-0.67) | 4.26 (1-1.67) | 2.8 (1.53-2.25) | 3.55 (0.65-1.09) | 4.01 (0.98-1.62) | 14.22 (0.81-1.1) | 6.9 (0.85-1.51) | 3.96 (1.09-1.94) | 2.67 (0.78-1.23) | 1.76 (0.8-1.13) | 2.22 (1.1-1.61) | 2.51 (3-3.95) |
|  *35-44 years* | 22.17 (0.92-1.37) | 10.75 (0.79-1.47) | 6.17 (1.24-2.32) | 4.16 (1.19-1.99) | 2.74 (0.79-1.28) | 3.46 (1.93-3.19) | 3.92 (3.68-5.12) | 13.89 (1.05-1.46) | 6.74 (2.32-3.39) | 3.86 (5.4-6.78) | 2.61 (0.2-0.42) | 1.71 (0.4-0.8) | 2.17 (1.2-2.08) | 2.46 (0.51-0.72) |
|  *45+ years* | 25.9 (1.42-1.97) | 12.56 (2-2.91) | 7.21 (6.64-8.3) | 4.86 (0.24-0.47) | 3.2 (0.55-1.1) | 4.05 (1.08-1.83) | 4.58 (0.59-0.84) | 16.23 (0.98-1.43) | 7.87 (2.4-3.12) | 4.51 (0.35-0.52) | 3.05 (0.95-1.46) | 2 (0.98-1.39) | 2.54 (0.41-0.6) | 2.87 (0.69-1.03) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 6.39 (1.07-1.51) | 4.65 (1.43-2.55) | 2.33 (0.79-1.17) | 1.87 (2.46-3.25) | 1.65 (2.22-3.32) | 2.21 (0.34-0.7) | 1.93 (1.25-2.18) | 4.27 (1.28-1.89) | 3.11 (0.43-0.67) | 1.56 (2.08-2.95) | 1.25 (1.03-1.59) | 1.1 (0.92-1.7) | 1.48 (1.6-2.59) | 1.29 (2.02-3.03) |
|  *25-34 years* | 4.68 (1.01-1.51) | 3.41 (0.34-0.53) | 1.7 (2.52-3.53) | 1.37 (0.81-1.28) | 1.21 (0.57-1.06) | 1.62 (1.95-3.22) | 1.42 (1.61-2.39) | 3.12 (1.95-2.61) | 2.28 (6.03-7.36) | 1.14 (0.71-1.48) | 0.92 (0.8-1.13) | 0.81 (2.48-3.27) | 1.08 (0.73-1.1) | 0.95 (0.59-0.9) |
|  *35-44 years* | 4.31 (2.55-4.09) | 3.14 (5.24-7.22) | 1.57 (0.8-1.67) | 1.26 (0.97-1.61) | 1.11 (1.76-2.51) | 1.49 (1.83-3.17) | 1.3 (0.77-1.34) | 2.88 (1.08-1.53) | 2.1 (1.63-2.98) | 1.05 (1.22-1.77) | 0.85 (4.09-5.39) | 0.74 (4.01-5.81) | 1 (0.38-0.79) | 0.87 (1.94-3.47) |
|  *45+ years* | 5.08 (1.03-1.58) | 3.7 (2.86-5.47) | 1.85 (1.52-2.53) | 1.49 (2.42-3.42) | 1.31 (3.54-5.09) | 1.76 (0.43-0.9) | 1.54 (1.02-1.79) | 3.39 (1.67-2.46) | 2.47 (0.65-1.02) | 1.24 (1.62-2.25) | 1 (1.27-2.02) | 0.88 (0.78-1.45) | 1.18 (1.32-2.17) | 1.03 (2.68-3.92) |
| **>12 months after ART initiation** |
|  *15-24 years* | 3.35 (0.48-0.87) | 2.44 (1.24-2) | 1.22 (1.39-2.14) | 0.98 (1.3-1.83) | 0.87 (8.94-11.62) | 1.16 (0.45-0.92) | 1.01 (0.49-0.71) | 2.24 (2.54-3.33) | 1.63 (1.18-1.83) | 0.82 (0.72-1.12) | 0.66 (0.84-1.16) | 0.58 (1.26-2.27) | 0.78 (0.89-1.28) | 0.68 (3.29-4.39) |
|  *25-34 years* | 2.45 (3.11-4.1) | 1.79 (0.74-1.18) | 0.89 (0.57-0.86) | 0.72 (1.35-1.99) | 0.63 (0.98-1.8) | 0.85 (0.7-0.99) | 0.74 (5.44-7.34) | 1.64 (2.72-3.85) | 1.19 (0.31-0.64) | 0.6 (0.97-1.68) | 0.48 (1.35-2) | 0.42 (0.76-1.17) | 0.57 (1.34-1.94) | 0.5 (1.19-1.83) |
|  *35-44 years* | 2.26 (4.51-7.32) | 1.65 (0.53-1.13) | 0.82 (1.21-2.16) | 0.66 (1.93-3.08) | 0.58 (0.85-1.48) | 0.78 (0.98-1.47) | 0.68 (1.64-2.73) | 1.51 (1.12-2.06) | 1.1 (1.04-1.7) | 0.55 (1.44-2.16) | 0.44 (1.99-2.81) | 0.39 (8.89-11.09) | 0.52 (0.66-1.38) | 0.46 (0.83-1.2) |
|  *45+ years* | 2.66 (0.98-1.85) | 1.94 (0.95-1.6) | 0.97 (3.37-5.65) | 0.78 (1.66-2.29) | 0.69 (7.42-9.3) | 0.92 (0.69-1.43) | 0.81 (0.78-1.13) | 1.78 (2.57-3.36) | 1.3 (1.61-2.55) | 0.65 (0.65-1.03) | 0.52 (1.7-2.47) | 0.46 (2.44-4.55) | 0.62 (1.33-1.89) | 0.54 (4.03-5.28) |

**Supplementary Table S3** Crude mortality rates (per 100 person years) with 95% confidence intervals for West Africa.

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 17.2 (13.46-21.65) | 10.9 (8.42-13.95) | 6.37 (4.86-8.1) | 3.85 (2.84-5.1) | 3.28 (2.41-4.31) | 2.85 (1.87-4.07) | 1.81 (1.13-2.76) | 12.94 (10.2-16.31) | 8.2 (6.42-10.45) | 4.79 (3.77-6) | 2.9 (2.2-3.8) | 2.47 (1.88-3.17) | 2.15 (1.51-3.02) | 1.36 (0.85-2.13) |
|  *25-34 years* | 14.73 (11.79-17.57) | 9.33 (7.32-11.56) | 5.46 (4.31-6.7) | 3.3 (2.51-4.17) | 2.81 (2.11-3.65) | 2.44 (1.69-3.43) | 1.55 (0.97-2.33) | 11.08 (9.12-12.88) | 7.02 (5.63-8.59) | 4.1 (3.39-4.89) | 2.48 (1.96-3.09) | 2.11 (1.64-2.63) | 1.84 (1.29-2.51) | 1.17 (0.74-1.72) |
|  *35-44 years* | 17.78 (14.94-20.91) | 11.26 (9.24-13.67) | 6.58 (5.35-7.92) | 3.98 (3.15-4.97) | 3.39 (2.65-4.25) | 2.95 (2.08-4.05) | 1.87 (1.2-2.73) | 13.37 (11-15.96) | 8.47 (6.88-10.35) | 4.95 (4.06-5.9) | 2.99 (2.4-3.66) | 2.55 (2-3.13) | 2.22 (1.59-3.01) | 1.41 (0.91-2.13) |
|  *45+ years* | 25.77 (21.58-29.83) | 16.33 (13.45-19.72) | 9.55 (7.76-11.41) | 5.77 (4.6-7.04) | 4.92 (3.82-6.12) | 4.27 (3.04-5.9) | 2.72 (1.77-4.06) | 19.39 (15.64-22.86) | 12.28 (10.02-15.17) | 7.18 (5.9-8.5) | 4.34 (3.49-5.31) | 3.7 (2.93-4.6) | 3.22 (2.34-4.33) | 2.04 (1.34-3.12) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 5.49 (4.34-6.92) | 4.01 (3.08-5.23) | 2.66(2.09-3.4) | 1.99 (1.55-2.58) | 1.78 (1.37-2.34) | 1.65 (1.21-2.22) | 1.07 (0.72-1.55) | 4.3 (3.42-5.36) | 3.13 (2.47-3.94) | 2.08 (1.66-2.58) | 1.55 (1.24-1.96) | 1.39 (1.09-1.76) | 1.29 (0.95-1.71) | 0.83 (0.57-1.19) |
|  *25-34 years* | 4.23 (3.3-5.42) | 3.09 (2.33-3.96) | 2.05 (1.59-2.59) | 1.53 (1.16-1.96) | 1.37 (1.04-1.76) | 1.27 (0.92-1.71) | 0.82 (0.55-1.19) | 3.31 (2.61-4.12) | 2.41 (1.86-3.03) | 1.6 (1.27-1.98) | 1.2 (0.94-1.47) | 1.07 (0.83-1.33) | 0.99 (0.74-1.29) | 0.64 (0.44-0.94) |
|  *35-44 years* | 5.25 (4.2-6.38) | 3.83 (3.01-4.78) | 2.54 (2.04-3.16) | 1.9 (1.51-2.36) | 1.7 (1.34-2.14) | 1.58 (1.17-2.1) | 1.02 (0.72-1.46) | 4.11 (3.3-4.97) | 3 (2.36-3.67) | 1.99 (1.61-2.42) | 1.49 (1.19-1.81) | 1.33 (1.05-1.65) | 1.23 (0.9-1.63) | 0.8 (0.56-1.12) |
|  *45+ years* | 7.95 (6.37-9.57) | 5.8 (4.61-7.12) | 3.84 (3.1-4.67) | 2.87 (2.3-3.53) | 2.58 (1.99-3.23) | 2.39 (1.75-3.15) | 1.54 (1.05-2.22) | 6.22 (4.97-7.61) | 4.54 (3.57-5.6) | 3.01 (2.41-3.64) | 2.25 (1.78-2.73) | 2.02 (1.56-2.48) | 1.87 (1.35-2.43) | 1.21 (0.83-1.71) |
| **>12 months after ART initiation** |
|  *15-24 years* | 3.03 (2.4-3.72) | 2.21 (1.77-2.74) | 1.47 (1.19-1.83) | 1.1 (0.87-1.41) | 0.98 (0.77-1.26) | 0.91 (0.67-1.21) | 0.59 (0.41-0.86) | 2.37 (1.91-2.92) | 1.73 (1.39-2.12) | 1.15 (0.95-1.4) | 0.86 (0.7-1.04) | 0.77 (0.62-0.96) | 0.71 (0.54-0.93) | 0.46 (0.32-0.64) |
|  *25-34 years* | 2.33 (1.83-2.9) | 1.7 (1.33-2.13) | 1.13 (0.88-1.4) | 0.84 (0.65-1.07) | 0.76 (0.58-0.96) | 0.7 (0.52-0.93) | 0.45 (0.31-0.66) | 1.83 (1.45-2.25) | 1.33 (1.05-1.64) | 0.88 (0.72-1.08) | 0.66 (0.53-0.8) | 0.59 (0.48-0.72) | 0.55 (0.41-0.71) | 0.35 (0.25-0.5) |
|  *35-44 years* | 2.9 (2.37-3.52) | 2.11 (1.72-2.54) | 1.4 (1.17-1.69) | 1.05 (0.86-1.27) | 0.94 (0.75-1.18) | 0.87 (0.65-1.13) | 0.56 (0.4-0.79) | 2.27 (1.86-2.71) | 1.65 (1.35-2) | 1.1 (0.92-1.31) | 0.82 (0.67-0.98) | 0.74 (0.59-0.88) | 0.68 (0.51-0.88) | 0.44 (0.31-0.6) |
|  *45+ years* | 4.38 (3.61-5.15) | 3.2 (2.68-3.76) | 2.12 (1.77-2.5) | 1.59 (1.29-1.9) | 1.42 (1.16-1.73) | 1.32 (0.98-1.69) | 0.85 (0.6-1.21) | 3.43 (2.79-4.11) | 2.5 (2.03-2.97) | 1.66 (1.38-1.95) | 1.24 (1.01-1.47) | 1.11 (0.87-1.32) | 1.03 (0.76-1.31) | 0.67 (0.46-0.93) |

**Supplementary Table S4**  Crude mortality rates (per 100 person years) with 95% confidence intervals for Central Africa.

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 15.23 (8.29-24.86) | 6.2 (3.39-10.2) | 2.87 (1.7-4.59) | 1.98 (1.14-3.22) | 1.1 (0.67-1.71) | 1.21 (0.64-2.01) | 1.88 (0.74-3.86) | 10.02 (5.33-16.73) | 4.08 (2.23-6.97) | 1.89 (1.17-2.93) | 1.3 (0.79-1.99) | 0.73 (0.47-1.03) | 0.8 (0.47-1.24) | 1.24 (0.52-2.25) |
|  *25-34 years* | 13.83 (8.09-21.56) | 5.63 (3.04-8.95) | 2.61 (1.54-4.3) | 1.8 (1.1-2.79) | 1 (0.65-1.49) | 1.1 (0.61-1.83) | 1.71 (0.66-3.64) | 9.1 (4.87-14.82) | 3.7 (1.96-6.21) | 1.72 (1.02-2.7) | 1.18 (0.71-1.78) | 0.66 (0.43-0.94) | 0.72 (0.43-1.12) | 1.12 (0.47-2.12) |
|  *35-44 years* | 11.75 (6.41-19.18) | 4.78 (2.72-7.39) | 2.22 (1.3-3.38) | 1.53 (0.86-2.4) | 0.85 (0.5-1.31) | 0.93 (0.49-1.58) | 1.45 (0.53-3.13) | 7.73 (4.02-12.95) | 3.14 (1.72-5.25) | 1.46 (0.86-2.19) | 1 (0.6-1.53) | 0.56 (0.35-0.82) | 0.61 (0.35-1.02) | 0.95 (0.38-1.96) |
|  *45+ years* | 21.44 (12.38-33.47) | 8.73 (4.87-13.76) | 4.05 (2.32-6.42) | 2.79 (1.42-4.81) | 1.55 (0.81-2.54) | 1.71 (0.8-3.05) | 2.64 (0.98-5.88) | 14.1 (7.69-23.51) | 5.74 (3.03-9.6) | 2.66 (1.54-4.16) | 1.83 (0.97-3.05) | 1.02 (0.57-1.61) | 1.12 (0.58-1.93) | 1.74 (0.68-3.66) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 4.08 (2.39-6.28) | 3.25 (2.11-4.72) | 1.78 (1.23-2.44) | 1.54 (1.09-2.07) | 1.3 (0.94-1.77) | 1.19 (0.83-1.66) | 1.1 (0.71-1.62) | 2.7 (1.6-4.18) | 2.14 (1.37-3.06) | 1.18 (0.82-1.61) | 1.02 (0.72-1.37) | 0.86 (0.62-1.14) | 0.79 (0.54-1.11) | 0.73 (0.46-1.1) |
|  *25-34 years* | 3.81 (2.19-6.03) | 3.03 (1.93-4.55) | 1.67 (1.16-2.36) | 1.44 (1-1.97) | 1.22 (0.85-1.65) | 1.11 (0.74-1.55) | 1.03 (0.65-1.58) | 2.52 (1.46-3.99) | 2 (1.26-2.95) | 1.1 (0.74-1.55) | 0.95 (0.66-1.31) | 0.8 (0.56-1.08) | 0.74 (0.49-1.03) | 0.68 (0.42-1.06) |
|  *35-44 years* | 4.06 (2.3-6.4) | 3.23 (2.03-4.79) | 1.78 (1.18-2.52) | 1.53 (1.04-2.1) | 1.3 (0.88-1.77) | 1.19 (0.78-1.69) | 1.09 (0.69-1.69) | 2.68 (1.52-4.22) | 2.13 (1.34-3.19) | 1.17 (0.76-1.68) | 1.01 (0.68-1.42) | 0.86 (0.58-1.17) | 0.78 (0.52-1.11) | 0.72(0.45-1.1) |
|  *45+ years* | 4.42 (2.63-7.04) | 3.52 (2.16-5.26) | 1.93 (1.29-2.79) | 1.67(1.14-2.4) | 1.41 (0.94-2.02) | 1.29 (0.81-1.97) | 1.19 (0.7-1.92) | 2.92 (1.7-4.5) | 2.32 (1.45-3.36) | 1.28 (0.84-1.84) | 1.1 (0.73-1.6) | 0.93 (0.61-1.32) | 0.85 (0.53-1.27) | 0.79 (0.46-1.27) |
| **>12 months after ART initiation** |
|  *15-24 years* | 2.23 (1.35-3.3) | 1.77 (1.17-2.44) | 0.97 (0.7-1.28) | 0.84 (0.62-1.1) | 0.71 (0.52-0.96) | 0.65 (0.47-0.91) | 0.6 (0.4-0.89) | 1.47 (0.93-2.12) | 1.17 (0.81-1.62) | 0.64 (0.47-0.85) | 0.55 (0.4-0.72) | 0.47 (0.34-0.6) | 0.43 (0.31-0.58) | 0.4 (0.26-0.59) |
|  *25-34 years* | 2.08 (1.23-3.19) | 1.65 (1.06-2.44) | 0.91 (0.63-1.25) | 0.78 (0.53-1.06) | 0.66 (0.46-0.91) | 0.61 (0.42-0.86) | 0.56 (0.36-0.87) | 1.37 (0.83-2.09) | 1.09 (0.71-1.57) | 0.6 (0.42-0.8) | 0.52 (0.36-0.69) | 0.44 (0.31-0.58) | 0.4 (0.28-0.55) | 0.37 (0.24-0.57) |
|  *35-44 years* | 2.22 (1.34-3.22) | 1.76 (1.2-2.47) | 0.97 (0.69-1.31) | 0.84 (0.62-1.11) | 0.71 (0.52-0.94) | 0.65 (0.46-0.88) | 0.6 (0.41-0.89) | 1.46 (0.9-2.13) | 1.16 (0.79-1.63) | 0.64 (0.46-0.85) | 0.55 (0.4-0.73) | 0.47(0.34-0.6) | 0.43 (0.3-0.57) | 0.39 (0.26-0.58) |
|  *45+ years* | 2.41 (1.45-3.58) | 1.92 (1.24-2.73) | 1.05 (0.72-1.44) | 0.91 (0.62-1.25) | 0.77 (0.52-1.1) | 0.7 (0.47-1.03) | 0.65 (0.4-1.03) | 1.59 (1-2.34) | 1.27 (0.84-1.78) | 0.7 (0.5-0.94) | 0.6 (0.42-0.82) | 0.51 (0.35-0.7) | 0.46 (0.31-0.66) | 0.43 (0.26-0.68) |

**Supplementary Table S5** Crude mortality rates (per 100 person years) with 95% confidence intervals for Latin America.

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 14.57 (10.34-19.77) | 8.68 (6.08-12.26) | 6.08 (4.07-8.81) | 3.13 (2.07-4.31) | 1.88 (1.26-2.62) | 1.67 (0.94-2.65) | 1.55 (0.6-3.25) | 11.57 (7.43-17.16) | 6.89 (4.38-10.45) | 4.83 (3.1-7.33) | 2.49 (1.61-3.71) | 1.49 (0.94-2.24) | 1.32 (0.71-2.2) | 1.23 (0.45-2.59) |
|  *25-34 years* | 14 (10.09-18.17) | 8.34 (5.85-11.86) | 5.84 (4.11-7.84) | 3.01 (2-4.17) | 1.81 (1.2-2.54) | 1.6 (0.87-2.53) | 1.49 (0.56-3.11) | 11.12 (7.46-15.39) | 6.62 (4.27-9.51) | 4.64 (3.18-6.42) | 2.39 (1.54-3.42) | 1.43 (0.91-2.08) | 1.27 (0.66-2.07) | 1.18 (0.44-2.44) |
|  *35-44 years* | 17.31 (12.72-22.86) | 10.31 (7.24-14.05) | 7.22 (5-9.96) | 3.72 (2.45-5.11) | 2.23 (1.5-3.14) | 1.98 (1.11-3.18) | 1.84 (0.72-4.01) | 13.75 (9.04-19.56) | 8.19 (5.27-11.86) | 5.73 (3.7-8.18) | 2.96 (2-4.18) | 1.77 (1.14-2.6) | 1.57 (0.84-2.63) | 1.46 (0.56-3.12) |
|  *45+ years* | 24.59 (18.17-32.29) | 14.64 (10.35-20.21) | 10.26 (7.17-14.19) | 5.29 (3.65-7.26) | 3.17 (2.13-4.32) | 2.81 (1.6-4.4) | 2.62 (1-5.33) | 19.53 (13.1-27.28) | 11.63 (7.5-17.01) | 8.14 (5.41-11.61) | 4.2 (2.76-5.93) | 2.52 (1.59-3.59) | 2.23 (1.21-3.62) | 2.08 (0.78-4.26) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 3.49 (2.34-4.98) | 3.08 (2.06-4.37) | 2.08 (1.37-2.99) | 1.36 (0.9-1.95) | 0.89 (0.59-1.25) | 1.09 (0.6-1.75) | 1.47 (0.53-3.01) | 3.65 (2.17-5.51) | 3.22 (2.01-4.89) | 2.17(1.41-3.1) | 1.42 (0.96-2.05) | 0.93 (0.63-1.27) | 1.14 (0.61-1.86) | 1.54 (0.53-3.19) |
|  *25-34 years* | 3.25 (2.02-4.62) | 2.87 (1.82-4.08) | 1.93 (1.28-2.74) | 1.27 (0.79-1.83) | 0.83 (0.52-1.2) | 1.01 (0.57-1.69) | 1.37 (0.53-2.78) | 3.39 (1.87-5.33) | 3 (1.81-4.5) | 2.02 (1.28-2.83) | 1.32 (0.85-1.89) | 0.86 (0.55-1.23) | 1.06 (0.56-1.77) | 1.43 (0.54-3.05) |
|  *35-44 years* | 3.19 (2.13-4.71) | 2.82 (1.83-4.15) | 1.9 (1.18-2.8) | 1.25 (0.79-1.84) | 0.81 (0.51-1.19) | 1 (0.53-1.74) | 1.34 (0.49-2.85) | 3.34 (1.97-5.28) | 2.94 (1.79-4.48) | 1.99 (1.24-2.89) | 1.3 (0.85-1.95) | 0.85 (0.55-1.23) | 1.04 (0.55-1.78) | 1.4 (0.49-3.03) |
|  *45+ years* | 5.55 (3.69-7.81) | 4.9 (3.13-7.06) | 3.31 (2.13-4.73) | 2.17 (1.29-3.31) | 1.41 (0.89-2.09) | 1.74 (0.92-2.93) | 2.34 (0.81-5.07) | 5.8 (3.57-8.63) | 5.12 (3.27-7.72) | 3.45 (2.32-4.78) | 2.26 (1.48-3.27) | 1.47 (0.96-2.06) | 1.81 (0.97-2.98) | 2.44 (0.86-5.23) |
| **>12 months after ART initiation** |
|  *15-24 years* | 1.39 (0.93-1.92) | 1.23 (0.84-1.69) | 0.83 (0.56-1.15) | 0.54 (0.36-0.75) | 0.35 (0.24-0.49) | 0.44 (0.26-0.67) | 0.59 (0.23-1.19) | 1.46 (0.86-2.3) | 1.29 (0.81-1.91) | 0.87 (0.57-1.25) | 0.57 (0.37-0.81) | 0.37 (0.24-0.52) | 0.45 (0.26-0.75) | 0.61 (0.23-1.25) |
|  *25-34 years* | 1.3 (0.8-1.89) | 1.14 (0.73-1.61) | 0.77 (0.49-1.09) | 0.51 (0.32-0.72) | 0.33 (0.21-0.47) | 0.41 (0.23-0.66) | 0.55 (0.22-1.07) | 1.36 (0.74-2.16) | 1.2 (0.69-1.79) | 0.81 (0.51-1.16) | 0.53 (0.34-0.78) | 0.34(0.21-0.5) | 0.42 (0.23-0.72) | 0.57 (0.21-1.17) |
|  *35-44 years* | 1.27 (0.87-1.76) | 1.13 (0.77-1.55) | 0.76 (0.5-1.07) | 0.5 (0.33-0.69) | 0.32 (0.22-0.45) | 0.4 (0.23-0.63) | 0.54 (0.21-1.04) | 1.33 (0.76-2.08) | 1.18 (0.73-1.74) | 0.79 (0.5-1.16) | 0.52 (0.34-0.74) | 0.34 (0.22-0.49) | 0.42 (0.24-0.68) | 0.56 (0.21-1.11) |
|  *45+ years* | 2.22 (1.54-3.01) | 1.96 (1.3-2.67) | 1.32 (0.86-1.87) | 0.87 (0.55-1.24) | 0.56 (0.36-0.79) | 0.69 (0.39-1.09) | 0.93 (0.35-1.87) | 2.32 (1.43-3.41) | 2.05 (1.34-2.92) | 1.38 (0.93-1.92) | 0.9 (0.58-1.28) | 0.59 (0.38-0.82) | 0.72 (0.41-1.16) | 0.98 (0.35-2.05) |

**Supplementary Table S6** Crude mortality rates (per 100 person years) with 95% confidence intervals for Asia Pacific.

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 13.44 (9.12-19.47) | 7.6 (4.81-11.86) | 4.36 (2.75-6.81) | 1.95 (1.27-2.86) | 1.65 (1-2.61) | 2.06 (0.95-3.79) | 1.29 (0.54-2.86) | 13.01 (8.04-20.35) | 7.35 (4.22-11.79) | 4.22 (2.49-6.91) | 1.89 (1.16-2.92) | 1.6 (0.91-2.62) | 1.99 (0.87-3.79) | 1.25 (0.52-2.79) |
|  *25-34 years* | 10.04 (6.97-13.55) | 5.67 (3.76-7.97) | 3.25 (2.12-4.57) | 1.46 (0.99-1.97) | 1.23 (0.77-1.82) | 1.54 (0.76-2.64) | 0.97 (0.41-2.19) | 9.72 (6.09-13.77) | 5.49 (3.41-8.12) | 3.15 (2.04-4.44) | 1.41 (0.93-1.94) | 1.19 (0.7-1.83) | 1.49 (0.7-2.72) | 0.94 (0.4-2.06) |
|  *35-44 years* | 11.85 (8.32-15.51) | 6.7 (4.61-8.73) | 3.84 (2.53-5.29) | 1.72 (1.18-2.33) | 1.45 (0.9-2.17) | 1.82 (0.86-3.42) | 1.14 (0.5-2.43) | 11.47 (7.43-16.5) | 6.48 (4.2-9.22) | 3.72 (2.28-5.25) | 1.67 (1.07-2.34) | 1.41 (0.82-2.18) | 1.76 (0.79-3.23) | 1.1 (0.46-2.33) |
|  *45+ years* | 14.73 (10.76-19.42) | 8.32 (5.55-11.44) | 4.77 (3.06-6.76) | 2.14 (1.43-2.96) | 1.81 (1.1-2.73) | 2.26 (1.08-4.02) | 1.42 (0.6-3.12) | 14.25 (9.25-20.36) | 8.05 (5.11-12) | 4.62 (2.91-6.75) | 2.07 (1.34-2.99) | 1.75 (1.01-2.78) | 2.18 (1-4.06) | 1.37 (0.58-2.97) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 1.75 (1.07-2.79) | 3.06 (1.98-4.53) | 1.25 (0.78-1.92) | 0.84 (0.46-1.43) | 0.54 (0.29-0.93) | 0.71 (0.24-1.41) | 0.38 (0.11-1.01) | 0.89 (0.45-1.58) | 1.55 (0.81-2.69) | 0.63(0.33-1.1) | 0.43 (0.19-0.8) | 0.28 (0.13-0.49) | 0.36 (0.11-0.72) | 0.19 (0.05-0.54) |
|  *25-34 years* | 2.3 (1.36-3.78) | 4.03 (2.47-6.13) | 1.65 (0.95-2.53) | 1.11 (0.61-1.79) | 0.71 (0.36-1.22) | 0.93 (0.31-1.88) | 0.5 (0.14-1.25) | 1.17 (0.59-1.89) | 2.04 (1.07-3.4) | 0.83 (0.44-1.35) | 0.56 (0.27-0.95) | 0.36 (0.16-0.64) | 0.47 (0.14-0.96) | 0.25 (0.06-0.68) |
|  *35-44 years* | 2.6 (1.6-3.91) | 4.55 (2.87-6.55) | 1.86(1.12-2.7) | 1.25 (0.69-2.02) | 0.81 (0.44-1.33) | 1.05 (0.36-2.09) | 0.57 (0.16-1.55) | 1.32 (0.64-2.19) | 2.3 (1.16-3.89) | 0.94 (0.49-1.56) | 0.63 (0.28-1.11) | 0.41 (0.2-0.7) | 0.53 (0.17-1.09) | 0.29 (0.07-0.8) |
|  *45+ years* | 4.02 (2.62-5.66) | 7.02 (4.58-10.08) | 2.87 (1.79-4.24) | 1.93 (1.06-3.14) | 1.25 (0.68-1.98) | 1.62 (0.56-3.08) | 0.87 (0.26-2.28) | 2.04 (1.09-3.27) | 3.56 (1.82-5.84) | 1.45 (0.74-2.41) | 0.98 (0.45-1.76) | 0.63 (0.31-1.08) | 0.82 (0.26-1.62) | 0.44 (0.12-1.2) |
| **>12 months after ART initiation** |
|  *15-24 years* | 0.79 (0.52-1.2) | 1.38 (0.95-1.97) | 0.56 (0.37-0.8) | 0.38(0.23-0.6) | 0.25 (0.14-0.39) | 0.32 (0.11-0.62) | 0.17 (0.05-0.45) | 0.4 (0.21-0.69) | 0.7 (0.36-1.2) | 0.29 (0.15-0.48) | 0.19 (0.09-0.34) | 0.12 (0.06-0.21) | 0.16 (0.05-0.34) | 0.09 (0.02-0.23) |
|  *25-34 years* | 1.04 (0.6-1.63) | 1.82 (1.08-2.76) | 0.74 (0.43-1.13) | 0.5 (0.28-0.78) | 0.32 (0.16-0.54) | 0.42 (0.14-0.87) | 0.23 (0.06-0.58) | 0.53 (0.28-0.88) | 0.92 (0.46-1.56) | 0.38 (0.19-0.62) | 0.25 (0.12-0.42) | 0.16 (0.07-0.29) | 0.21 (0.06-0.44) | 0.11 (0.03-0.31) |
|  *35-44 years* | 1.17 (0.77-1.64) | 2.05 (1.36-2.84) | 0.84 (0.53-1.18) | 0.57 (0.33-0.86) | 0.36 (0.2-0.54) | 0.47 (0.16-0.98) | 0.26 (0.07-0.68) | 0.6 (0.32-0.98) | 1.04 (0.53-1.69) | 0.42 (0.21-0.69) | 0.29 (0.14-0.49) | 0.18 (0.09-0.3) | 0.24 (0.07-0.49) | 0.13 (0.03-0.35) |
|  *45+ years* | 1.81 (1.25-2.48) | 3.17 (2.13-4.39) | 1.3 (0.85-1.87) | 0.87 (0.51-1.34) | 0.56 (0.32-0.88) | 0.73 (0.26-1.41) | 0.39 (0.12-1.01) | 0.92 (0.51-1.45) | 1.61 (0.85-2.61) | 0.66 (0.35-1.07) | 0.44 (0.21-0.77) | 0.28 (0.15-0.48) | 0.37 (0.12-0.74) | 0.2 (0.05-0.52) |

**Supplementary Table S7**  Crude mortality rates (per 100 person years) with 95% confidence intervals for North America.

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 2.22 (0.98-4.3) | 2.19 (0.97-4.05) | 0.84 (0.47-1.29) | 0.71 (0.36-1.17) | 0.54 (0.27-0.87) | 0.32 (0.17-0.48) | 0.25 (0.12-0.46) | 3.2 (1.2-6.11) | 3.16 (1.07-6.22) | 1.22 (0.42-2.4) | 1.02 (0.35-2) | 0.78 (0.28-1.53) | 0.47 (0.18-0.83) | 0.36 (0.14-0.69) |
|  *25-34 years* | 2.69 (1.2-4.82) | 2.66 (1.04-4.85) | 1.02 (0.47-1.67) | 0.86 (0.33-1.65) | 0.65 (0.23-1.29) | 0.39 (0.15-0.71) | 0.31 (0.1-0.65) | 3.88 (1.36-7.38) | 3.84 (1.17-8.12) | 1.47 (0.43-3.23) | 1.24 (0.32-2.86) | 0.94 (0.24-2.33) | 0.57 (0.16-1.26) | 0.44 (0.13-0.99) |
|  *35-44 years* | 1.65 (0.64-3.18) | 1.63 (0.59-3.28) | 0.63 (0.24-1.15) | 0.53 (0.18-1.15) | 0.4 (0.16-0.73) | 0.24 (0.1-0.41) | 0.19 (0.08-0.37) | 2.39 (0.71-5.15) | 2.36 (0.64-5.4) | 0.91 (0.21-2.2) | 0.76 (0.17-1.92) | 0.58 (0.15-1.35) | 0.35 (0.1-0.72) | 0.27 (0.08-0.59) |
|  *45+ years* | 4.24 (1.65-8.3) | 4.19 (1.6-8.43) | 1.61 (0.82-2.59) | 1.35 (0.69-2.21) | 1.03 (0.49-1.73) | 0.62 (0.3-1) | 0.48 (0.21-0.94) | 6.12 (2.34-11.36) | 6.05 (1.95-12.02) | 2.33 (0.87-4.31) | 1.95 (0.75-3.56) | 1.49 (0.56-2.7) | 0.89 (0.37-1.53) | 0.7 (0.28-1.28) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 2.89 (1.7-4.46) | 2.27 (1.35-3.36) | 1.43 (0.92-2.02) | 1.12 (0.76-1.53) | 0.92 (0.64-1.27) | 0.77 (0.53-1.05) | 0.83 (0.53-1.19) | 2.33(1.27-3.8) | 1.83 (0.98-2.99) | 1.15 (0.67-1.76) | 0.9 (0.54-1.34) | 0.74 (0.45-1.09) | 0.62 (0.39-0.92) | 0.67 (0.39-1.04) |
|  *25-34 years* | 2.13 (1.18-3.47) | 1.67 (0.93-2.67) | 1.05 (0.63-1.58) | 0.82 (0.52-1.19) | 0.67 (0.43-0.98) | 0.57 (0.37-0.82) | 0.61 (0.36-0.92) | 1.71 (0.83-3.05) | 1.34 (0.63-2.48) | 0.85 (0.45-1.45) | 0.66 (0.36-1.11) | 0.54(0.3-0.9) | 0.46 (0.26-0.74) | 0.49 (0.26-0.86) |
|  *35-44 years* | 3.17 (1.7-5.11) | 2.49 (1.33-4.06) | 1.57 (0.92-2.38) | 1.22 (0.77-1.78) | 1.01 (0.62-1.51) | 0.85(0.5-1.3) | 0.91(0.53-1.5) | 2.55 (1.4-4.26) | 2 (1.04-3.56) | 1.26 (0.71-2.04) | 0.99 (0.57-1.55) | 0.81 (0.48-1.26) | 0.68 (0.4-1.09) | 0.74 (0.4-1.22) |
|  *45+ years* | 5.13 (2.93-8.01) | 4.03 (2.43-6.04) | 2.54 (1.58-3.74) | 1.98 (1.25-2.92) | 1.63 (1.04-2.37) | 1.37 (0.9-1.89) | 1.48 (0.92-2.11) | 4.13 (2.31-6.61) | 3.24 (1.81-5.17) | 2.04 (1.22-3.26) | 1.6 (0.95-2.48) | 1.31 (0.79-1.95) | 1.11 (0.69-1.64) | 1.19 (0.69-1.87) |
| **>12 months after ART initiation** |
|  *15-24 years* | 2.14 (1.49-2.97) | 1.68 (1.14-2.32) | 1.06 (0.77-1.46) | 0.83 (0.62-1.08) | 0.68 (0.5-0.91) | 0.57 (0.41-0.74) | 0.62 (0.41-0.86) | 1.72 (1.03-2.66) | 1.35 (0.81-2.17) | 0.85 (0.54-1.29) | 0.67 (0.42-1.01) | 0.55 (0.35-0.82) | 0.46 (0.29-0.68) | 0.5 (0.29-0.8) |
|  *25-34 years* | 1.57 (1-2.37) | 1.23 (0.77-1.95) | 0.78 (0.52-1.15) | 0.61 (0.41-0.87) | 0.5(0.34-0.71) | 0.42 (0.28-0.59) | 0.45 (0.28-0.68) | 1.27 (0.68-2.26) | 0.99 (0.53-1.93) | 0.63 (0.36-1.12) | 0.49 (0.28-0.86) | 0.4 (0.23-0.69) | 0.34 (0.19-0.59) | 0.37 (0.2-0.68) |
|  *35-44 years* | 2.35(1.51-3.49) | 1.84 (1.16-2.77) | 1.16 (0.76-1.69) | 0.91 (0.62-1.29) | 0.74 (0.5-1.06) | 0.63 (0.42-0.93) | 0.68 (0.4-1.08) | 1.89 (1.06-3.02) | 1.48 (0.85-2.53) | 0.93 (0.58-1.47) | 0.73 (0.46-1.12) | 0.6 (0.37-0.93) | 0.51 (0.31-0.79) | 0.54 (0.31-0.93) |
|  *45+ years* | 3.8 (2.53-5.38) | 2.98 (2.04-4.11) | 1.88 (1.3-2.69) | 1.47 (1.01-2.08) | 1.2 (0.81-1.7) | 1.01 (0.69-1.4) | 1.09 (0.71-1.58) | 3.06 (1.87-4.73) | 2.4 (1.45-3.76) | 1.51 (0.94-2.31) | 1.18 (0.72-1.79) | 0.97 (0.6-1.46) | 0.82 (0.51-1.21) | 0.88 (0.5-1.39) |

**Supplementary Table S8**  Three sets of correction factors based on data linkage in South Africa and tracing of patients lost to follow up in Kenya.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Gender** | **Age** (years) | **CD4 count** (cells/µL) | **ART period**(months) | **Correction factors** (No. of factors in set) |
|  |  |  |  | South Africa (2) | South Africa (168) | Kenya (168) |
| Female | 15-24 | <50 | >12 | 2.189916 | 2.067846 | 2.232868 |
| Female | 15-24 | <50 | 0-6 | 1.64397 | 1.814623 | 2.03894 |
| Female | 15-24 | <50 | 6-12 | 2.189916 | 1.697969 | 1.740988 |
| Female | 15-24 | >=500 | >12 | 2.189916 | 2.800414 | 1.579218 |
| Female | 15-24 | >=500 | 0-6 | 1.64397 | 3.79234 | 1.96031 |
| Female | 15-24 | >=500 | 6-12 | 2.189916 | 2.299502 | 1.969346 |
| Female | 15-24 | 100-199 | >12 | 2.189916 | 2.072795 | 2.102754 |
| Female | 15-24 | 100-199 | 0-6 | 1.64397 | 1.556734 | 2.040634 |
| Female | 15-24 | 100-199 | 6-12 | 2.189916 | 1.702032 | 1.701063 |
| Female | 15-24 | 200-249 | >12 | 2.189916 | 1.964165 | 2.634279 |
| Female | 15-24 | 200-249 | 0-6 | 1.64397 | 1.680239 | 1.91695 |
| Female | 15-24 | 200-249 | 6-12 | 2.189916 | 1.612833 | 1.333495 |
| Female | 15-24 | 250-349 | >12 | 2.189916 | 1.967266 | 1.616284 |
| Female | 15-24 | 250-349 | 0-6 | 1.64397 | 1.311076 | 1.993837 |
| Female | 15-24 | 250-349 | 6-12 | 2.189916 | 1.61538 | 1.442466 |
| Female | 15-24 | 350-499 | >12 | 2.189916 | 2.695073 | 1.959174 |
| Female | 15-24 | 350-499 | 0-6 | 1.64397 | 3.695248 | 2.353412 |
| Female | 15-24 | 350-499 | 6-12 | 2.189916 | 2.213003 | 1.302914 |
| Female | 15-24 | 50-99 | >12 | 2.189916 | 1.975792 | 2.696108 |
| Female | 15-24 | 50-99 | 0-6 | 1.64397 | 1.414255 | 2.048315 |
| Female | 15-24 | 50-99 | 6-12 | 2.189916 | 1.622381 | 1.40328 |
| Female | 25-34 | <50 | >12 | 2.189916 | 2.557258 | 1.805464 |
| Female | 25-34 | <50 | 0-6 | 1.64397 | 1.914963 | 2.299442 |
| Female | 25-34 | <50 | 6-12 | 2.189916 | 2.099839 | 1.58818 |
| Female | 25-34 | >=500 | >12 | 2.189916 | 3.463208 | 2.042279 |
| Female | 25-34 | >=500 | 0-6 | 1.64397 | 4.002038 | 1.626303 |
| Female | 25-34 | >=500 | 6-12 | 2.189916 | 2.843742 | 1.526934 |
| Female | 25-34 | 100-199 | >12 | 2.189916 | 2.563378 | 1.76406 |
| Female | 25-34 | 100-199 | 0-6 | 1.64397 | 1.642814 | 2.106871 |
| Female | 25-34 | 100-199 | 6-12 | 2.189916 | 2.104864 | 1.916968 |
| Female | 25-34 | 200-249 | >12 | 2.189916 | 2.429038 | 1.38288 |
| Female | 25-34 | 200-249 | 0-6 | 1.64397 | 1.773148 | 2.712821 |
| Female | 25-34 | 200-249 | 6-12 | 2.189916 | 1.994554 | 1.493159 |
| Female | 25-34 | 250-349 | >12 | 2.189916 | 2.432873 | 2.125975 |
| Female | 25-34 | 250-349 | 0-6 | 1.64397 | 1.383572 | 1.664474 |
| Female | 25-34 | 250-349 | 6-12 | 2.189916 | 1.997703 | 1.873006 |
| Female | 25-34 | 350-499 | >12 | 2.189916 | 3.332935 | 1.351167 |
| Female | 25-34 | 350-499 | 0-6 | 1.64397 | 3.899577 | 1.96301 |
| Female | 25-34 | 350-499 | 6-12 | 2.189916 | 2.736771 | 2.210791 |
| Female | 25-34 | 50-99 | >12 | 2.189916 | 2.443417 | 2.06822 |
| Female | 25-34 | 50-99 | 0-6 | 1.64397 | 1.492456 | 2.776493 |
| Female | 25-34 | 50-99 | 6-12 | 2.189916 | 2.006361 | 1.924183 |
| Female | 35-44 | <50 | >12 | 2.189916 | 2.250671 | 2.340735 |
| Female | 35-44 | <50 | 0-6 | 1.64397 | 1.425156 | 1.934595 |
| Female | 35-44 | <50 | 6-12 | 2.189916 | 1.848091 | 2.160091 |
| Female | 35-44 | >=500 | >12 | 2.189916 | 3.048007 | 2.250467 |
| Female | 35-44 | >=500 | 0-6 | 1.64397 | 2.978401 | 2.188347 |
| Female | 35-44 | >=500 | 6-12 | 2.189916 | 2.502808 | 1.527746 |
| Female | 35-44 | 100-199 | >12 | 2.189916 | 2.256056 | 1.987961 |
| Female | 35-44 | 100-199 | 0-6 | 1.64397 | 1.222617 | 1.890229 |
| Female | 35-44 | 100-199 | 6-12 | 2.189916 | 1.852514 | 1.641093 |
| Female | 35-44 | 200-249 | >12 | 2.189916 | 2.137822 | 2.200688 |
| Female | 35-44 | 200-249 | 0-6 | 1.64397 | 1.319614 | 1.481786 |
| Female | 35-44 | 200-249 | 6-12 | 2.189916 | 1.755428 | 2.548418 |
| Female | 35-44 | 250-349 | >12 | 2.189916 | 2.141198 | 1.942372 |
| Female | 35-44 | 250-349 | 0-6 | 1.64397 | 1.029684 | 2.125252 |
| Female | 35-44 | 250-349 | 6-12 | 2.189916 | 1.7582 | 1.563604 |
| Female | 35-44 | 350-499 | >12 | 2.189916 | 2.933352 | 2.292666 |
| Female | 35-44 | 350-499 | 0-6 | 1.64397 | 2.902147 | 1.447805 |
| Female | 35-44 | 350-499 | 6-12 | 2.189916 | 2.408661 | 1.529036 |
| Female | 35-44 | 50-99 | >12 | 2.189916 | 2.150478 | 1.995444 |
| Female | 35-44 | 50-99 | 0-6 | 1.64397 | 1.110717 | 2.067516 |
| Female | 35-44 | 50-99 | 6-12 | 2.189916 | 1.76582 | 2.608232 |
| Female | 45+ | <50 | >12 | 2.189916 | 2.13812 | 2.240089 |
| Female | 45+ | <50 | 0-6 | 1.64397 | 1.702481 | 2.339939 |
| Female | 45+ | <50 | 6-12 | 2.189916 | 1.755673 | 1.724023 |
| Female | 45+ | >=500 | >12 | 2.189916 | 2.895583 | 1.584325 |
| Female | 45+ | >=500 | 0-6 | 1.64397 | 3.557976 | 2.249701 |
| Female | 45+ | >=500 | 6-12 | 2.189916 | 2.377648 | 1.950155 |
| Female | 45+ | 100-199 | >12 | 2.189916 | 2.143236 | 2.418721 |
| Female | 45+ | 100-199 | 0-6 | 1.64397 | 1.460529 | 2.130144 |
| Female | 45+ | 100-199 | 6-12 | 2.189916 | 1.759874 | 1.684486 |
| Female | 45+ | 200-249 | >12 | 2.189916 | 2.030915 | 2.642797 |
| Female | 45+ | 200-249 | 0-6 | 1.64397 | 1.576401 | 2.19994 |
| Female | 45+ | 200-249 | 6-12 | 2.189916 | 1.667643 | 1.3205 |
| Female | 45+ | 250-349 | >12 | 2.189916 | 2.034122 | 1.62151 |
| Female | 45+ | 250-349 | 0-6 | 1.64397 | 1.230053 | 2.081294 |
| Female | 45+ | 250-349 | 6-12 | 2.189916 | 1.670277 | 1.6105 |
| Female | 45+ | 350-499 | >12 | 2.189916 | 2.786663 | 2.253566 |
| Female | 45+ | 350-499 | 0-6 | 1.64397 | 3.466884 | 2.456642 |
| Female | 45+ | 350-499 | 6-12 | 2.189916 | 2.28821 | 1.290218 |
| Female | 45+ | 50-99 | >12 | 2.189916 | 2.042937 | 2.704826 |
| Female | 45+ | 50-99 | 0-6 | 1.64397 | 1.326855 | 2.138162 |
| Female | 45+ | 50-99 | 6-12 | 2.189916 | 1.677516 | 1.566749 |
| Male | 15-24 | <50 | >12 | 2.189916 | 2.315024 | 1.773189 |
| Male | 15-24 | <50 | 0-6 | 1.64397 | 2.154331 | 1.871539 |
| Male | 15-24 | <50 | 6-12 | 2.189916 | 1.900934 | 2.400304 |
| Male | 15-24 | >=500 | >12 | 2.189916 | 3.135159 | 1.704807 |
| Male | 15-24 | >=500 | 0-6 | 1.64397 | 4.502289 | 2.117021 |
| Male | 15-24 | >=500 | 6-12 | 2.189916 | 2.574371 | 1.697639 |
| Male | 15-24 | 100-199 | >12 | 2.189916 | 2.320564 | 1.898287 |
| Male | 15-24 | 100-199 | 0-6 | 1.64397 | 1.848164 | 1.82862 |
| Male | 15-24 | 100-199 | 6-12 | 2.189916 | 1.905483 | 2.417898 |
| Male | 15-24 | 200-249 | >12 | 2.189916 | 2.198949 | 1.667098 |
| Male | 15-24 | 200-249 | 0-6 | 1.64397 | 1.994789 | 1.43349 |
| Male | 15-24 | 200-249 | 6-12 | 2.189916 | 1.805621 | 2.831816 |
| Male | 15-24 | 250-349 | >12 | 2.189916 | 2.202422 | 1.854754 |
| Male | 15-24 | 250-349 | 0-6 | 1.64397 | 1.556517 | 1.658651 |
| Male | 15-24 | 250-349 | 6-12 | 2.189916 | 1.808473 | 1.737484 |
| Male | 15-24 | 350-499 | >12 | 2.189916 | 3.017226 | 2.189247 |
| Male | 15-24 | 350-499 | 0-6 | 1.64397 | 4.38702 | 1.400616 |
| Male | 15-24 | 350-499 | 6-12 | 2.189916 | 2.477533 | 2.2528 |
| Male | 15-24 | 50-99 | >12 | 2.189916 | 2.211967 | 1.905433 |
| Male | 15-24 | 50-99 | 0-6 | 1.64397 | 1.679011 | 1.613592 |
| Male | 15-24 | 50-99 | 6-12 | 2.189916 | 1.81631 | 2.898281 |
| Male | 25-34 | <50 | >12 | 2.189916 | 2.862938 | 2.139042 |
| Male | 25-34 | <50 | 0-6 | 1.64397 | 2.273456 | 1.826204 |
| Male | 25-34 | <50 | 6-12 | 2.189916 | 2.350842 | 1.940851 |
| Male | 25-34 | >=500 | >12 | 2.189916 | 3.87718 | 1.512858 |
| Male | 25-34 | >=500 | 0-6 | 1.64397 | 4.751243 | 1.755778 |
| Male | 25-34 | >=500 | 6-12 | 2.189916 | 3.183666 | 2.195423 |
| Male | 25-34 | 100-199 | >12 | 2.189916 | 2.869789 | 1.832265 |
| Male | 25-34 | 100-199 | 0-6 | 1.64397 | 1.950359 | 2.060715 |
| Male | 25-34 | 100-199 | 6-12 | 2.189916 | 2.356467 | 1.896342 |
| Male | 25-34 | 200-249 | >12 | 2.189916 | 2.71939 | 2.523585 |
| Male | 25-34 | 200-249 | 0-6 | 1.64397 | 2.105091 | 1.716942 |
| Male | 25-34 | 200-249 | 6-12 | 2.189916 | 2.232971 | 1.486578 |
| Male | 25-34 | 250-349 | >12 | 2.189916 | 2.723685 | 1.548367 |
| Male | 25-34 | 250-349 | 0-6 | 1.64397 | 1.642585 | 2.013457 |
| Male | 25-34 | 250-349 | 6-12 | 2.189916 | 2.236497 | 2.444599 |
| Male | 25-34 | 350-499 | >12 | 2.189916 | 3.731335 | 1.707155 |
| Male | 25-34 | 350-499 | 0-6 | 1.64397 | 4.629601 | 2.376571 |
| Male | 25-34 | 350-499 | 6-12 | 2.189916 | 3.063908 | 1.452487 |
| Male | 25-34 | 50-99 | >12 | 2.189916 | 2.735489 | 2.582816 |
| Male | 25-34 | 50-99 | 0-6 | 1.64397 | 1.771853 | 2.068472 |
| Male | 25-34 | 50-99 | 6-12 | 2.189916 | 2.24619 | 2.378188 |
| Male | 35-44 | <50 | >12 | 2.189916 | 2.519703 | 1.799645 |
| Male | 35-44 | <50 | 0-6 | 1.64397 | 1.691953 | 2.32207 |
| Male | 35-44 | <50 | 6-12 | 2.189916 | 2.069001 | 2.691546 |
| Male | 35-44 | >=500 | >12 | 2.189916 | 3.412348 | 2.035696 |
| Male | 35-44 | >=500 | 0-6 | 1.64397 | 3.535975 | 1.642307 |
| Male | 35-44 | >=500 | 6-12 | 2.189916 | 2.801978 | 2.587749 |
| Male | 35-44 | 100-199 | >12 | 2.189916 | 2.525732 | 1.758374 |
| Male | 35-44 | 100-199 | 0-6 | 1.64397 | 1.451498 | 1.887047 |
| Male | 35-44 | 100-199 | 6-12 | 2.189916 | 2.073952 | 2.137032 |
| Male | 35-44 | 200-249 | >12 | 2.189916 | 2.393365 | 1.378423 |
| Male | 35-44 | 200-249 | 0-6 | 1.64397 | 1.566653 | 2.739517 |
| Male | 35-44 | 200-249 | 6-12 | 2.189916 | 1.965262 | 2.53051 |
| Male | 35-44 | 250-349 | >12 | 2.189916 | 2.397144 | 1.848251 |
| Male | 35-44 | 250-349 | 0-6 | 1.64397 | 1.222446 | 1.680853 |
| Male | 35-44 | 250-349 | 6-12 | 2.189916 | 1.968365 | 2.088024 |
| Male | 35-44 | 350-499 | >12 | 2.189916 | 3.283988 | 1.346812 |
| Male | 35-44 | 350-499 | 0-6 | 1.64397 | 3.445446 | 1.758196 |
| Male | 35-44 | 350-499 | 6-12 | 2.189916 | 2.696579 | 2.464586 |
| Male | 35-44 | 50-99 | >12 | 2.189916 | 2.407533 | 1.79804 |
| Male | 35-44 | 50-99 | 0-6 | 1.64397 | 1.31865 | 2.803816 |
| Male | 35-44 | 50-99 | 6-12 | 2.189916 | 1.976896 | 2.145076 |
| Male | 45+ | <50 | >12 | 2.189916 | 2.393698 | 2.034956 |
| Male | 45+ | <50 | 0-6 | 1.64397 | 2.021195 | 1.853302 |
| Male | 45+ | <50 | 6-12 | 2.189916 | 1.965536 | 2.408066 |
| Male | 45+ | >=500 | >12 | 2.189916 | 3.241704 | 1.95648 |
| Male | 45+ | >=500 | 0-6 | 1.64397 | 4.22405 | 2.096391 |
| Male | 45+ | >=500 | 6-12 | 2.189916 | 2.661858 | 1.703128 |
| Male | 45+ | 100-199 | >12 | 2.189916 | 2.399426 | 1.981554 |
| Male | 45+ | 100-199 | 0-6 | 1.64397 | 1.733949 | 1.810801 |
| Male | 45+ | 100-199 | 6-12 | 2.189916 | 1.970239 | 2.781219 |
| Male | 45+ | 200-249 | >12 | 2.189916 | 2.273678 | 1.913204 |
| Male | 45+ | 200-249 | 0-6 | 1.64397 | 1.871513 | 1.419521 |
| Male | 45+ | 200-249 | 6-12 | 2.189916 | 1.866984 | 2.840973 |
| Male | 45+ | 250-349 | >12 | 2.189916 | 2.277269 | 1.936111 |
| Male | 45+ | 250-349 | 0-6 | 1.64397 | 1.460326 | 1.851869 |
| Male | 45+ | 250-349 | 6-12 | 2.189916 | 1.869932 | 1.743103 |
| Male | 45+ | 350-499 | >12 | 2.189916 | 3.119764 | 2.285276 |
| Male | 45+ | 350-499 | 0-6 | 1.64397 | 4.115905 | 1.386967 |
| Male | 45+ | 350-499 | 6-12 | 2.189916 | 2.561729 | 2.591312 |
| Male | 45+ | 50-99 | >12 | 2.189916 | 2.287138 | 1.989012 |
| Male | 45+ | 50-99 | 0-6 | 1.64397 | 1.57525 | 1.80156 |
| Male | 45+ | 50-99 | 6-12 | 2.189916 | 1.878036 | 2.907653 |

**Supplementary Table S9** Corrected mortality rates (per 100 person years) with 95% confidence intervals for Southern Africa (cohorts with no linkage).

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 37.72 (31.01-45.94) | 21.1 (17.24-25.38) | 13.46 (11.06-16.33) | 8.01 (6.52-9.92) | 6.24 (5.08-7.7) | 6.92 (5.22-8.77) | 7.76 (5.69-10.29) | 28.06 (23.21-33.59) | 15.69 (12.86-18.61) | 10.01 (8.27-11.83) | 5.96 (4.85-7.18) | 4.64 (3.83-5.59) | 5.14 (3.98-6.39) | 5.77 (4.22-7.56) |
|  *25-34 years* | 38.14 (32.4-45.47) | 21.33 (18.2-24.97) | 13.61 (11.68-15.89) | 8.1 (6.82-9.65) | 6.31 (5.31-7.53) | 6.99 (5.5-8.65) | 7.85 (5.95-10.31) | 28.37 (24.27-33.22) | 15.87 (13.49-18.56) | 10.12 (8.75-11.8) | 6.02 (5.1-7.08) | 4.69 (3.99-5.56) | 5.2 (4.09-6.4) | 5.84 (4.45-7.62) |
|  *35-44 years* | 38.22 (33-45.21) | 21.38 (18.26-24.58) | 13.63 (11.71-15.79) | 8.11 (6.83-9.64) | 6.32 (5.3-7.5) | 7.01 (5.45-8.68) | 7.86 (5.97-10.27) | 28.43 (24.22-33.4) | 15.9 (13.54-18.46) | 10.14 (8.74-11.73) | 6.04 (5.1-7.12) | 4.7 (3.94-5.56) | 5.21 (4.09-6.36) | 5.85 (4.45-7.61) |
|  *45+ years* | 45.66 (38.83-54.35) | 25.54 (21.58-30.19) | 16.29 (13.84-19.36) | 9.69 (8.13-11.78) | 7.55 (6.3-9.06) | 8.37 (6.48-10.52) | 9.39 (7-12.26) | 33.96 (28.3-40.86) | 18.99 (15.88-22.68) | 12.12 (10.16-14.36) | 7.21 (5.97-8.66) | 5.62 (4.64-6.76) | 6.23 (4.8-7.75) | 6.99 (5.27-9.22) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 15.27 (12.08-19.47) | 10.86 (8.6-13.77) | 8.31 (6.69-10.29) | 6.76 (5.37-8.48) | 6.11 (4.87-7.63) | 6.67 (5.19-8.72) | 6.85 (4.77-9.37) | 9.26 (7.36-11.82) | 6.59 (5.21-8.41) | 5.04 (4.09-6.32) | 4.1 (3.31-5.15) | 3.7 (2.97-4.58) | 4.04 (3.14-5.31) | 4.15 (2.98-5.63) |
|  *25-34 years* | 13.29 (10.63-16.44) | 9.45 (7.46-11.65) | 7.23 (5.82-8.8) | 5.88 (4.73-7.21) | 5.32 (4.27-6.51) | 5.8 (4.51-7.49) | 5.96 (4.19-8.01) | 8.06 (6.51-9.97) | 5.73 (4.59-7.13) | 4.38 (3.55-5.42) | 3.56 (2.88-4.39) | 3.22 (2.62-3.95) | 3.52 (2.72-4.53) | 3.61 (2.61-4.84) |
|  *35-44 years* | 12.58 (10.22-15.54) | 8.95 (7.21-11.13) | 6.84 (5.61-8.41) | 5.57 (4.49-6.85) | 5.03 (4.06-6.16) | 5.5 (4.31-7.09) | 5.64 (3.99-7.72) | 7.63 (6.15-9.65) | 5.43 (4.35-6.78) | 4.15 (3.4-5.14) | 3.37 (2.74-4.18) | 3.05 (2.47-3.76) | 3.33 (2.62-4.28) | 3.42 (2.45-4.61) |
|  *45+ years* | 15.87 (12.68-19.64) | 11.29 (9.09-13.97) | 8.63 (7.01-10.59) | 7.02 (5.62-8.67) | 6.35 (5.13-7.77) | 6.93 (5.44-8.94) | 7.12 (5.06-9.61) | 9.62 (7.72-12.06) | 6.84 (5.52-8.55) | 5.23 (4.24-6.45) | 4.26 (3.43-5.24) | 3.85 (3.13-4.74) | 4.2 (3.32-5.4) | 4.32 (3.12-5.77) |
| **>12 months after ART initiation** |
|  *15-24 years* | 7.96 (6.35-10.02) | 5.66 (4.49-7.19) | 4.33 (3.47-5.39) | 3.52 (2.8-4.43) | 3.19 (2.54-3.99) | 3.48 (2.71-4.56) | 3.57 (2.47-4.97) | 4.83 (3.87-6.11) | 3.43 (2.73-4.35) | 2.62 (2.12-3.25) | 2.13 (1.71-2.65) | 1.93 (1.56-2.41) | 2.11 (1.64-2.79) | 2.16 (1.54-2.97) |
|  *25-34 years* | 6.93 (5.56-8.55) | 4.93 (3.95-6.1) | 3.77 (3.08-4.61) | 3.06 (2.48-3.79) | 2.77 (2.23-3.4) | 3.03 (2.36-3.95) | 3.11 (2.15-4.22) | 4.2 (3.43-5.22) | 2.99 (2.43-3.69) | 2.28 (1.87-2.81) | 1.86 (1.52-2.29) | 1.68 (1.37-2.07) | 1.83 (1.43-2.38) | 1.88 (1.33-2.56) |
|  *35-44 years* | 6.56 (5.34-8.05) | 4.67 (3.8-5.82) | 3.57 (2.94-4.35) | 2.9 (2.35-3.59) | 2.62 (2.14-3.22) | 2.86 (2.27-3.71) | 2.94 (2.08-4.05) | 3.98 (3.24-4.94) | 2.83 (2.32-3.48) | 2.16 (1.78-2.65) | 1.76 (1.44-2.17) | 1.59 (1.3-1.94) | 1.74 (1.36-2.26) | 1.78 (1.29-2.44) |
|  *45+ years* | 8.27 (6.71-10.21) | 5.88 (4.83-7.28) | 4.5 (3.71-5.54) | 3.66 (2.98-4.55) | 3.31 (2.69-4.06) | 3.61 (2.85-4.68) | 3.71 (2.62-5.12) | 5.01 (4.08-6.25) | 3.57 (2.89-4.43) | 2.73 (2.26-3.34) | 2.22 (1.82-2.73) | 2.01 (1.63-2.46) | 2.19 (1.72-2.83) | 2.25 (1.62-3.06) |

**Supplementary Table S10**  Corrected mortality rates (per 100 person years) including 95% confidence intervals for East Africa (all cohorts).

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 33.36 (9.94-23.64) | 17.63 (5.17-13.79) | 10.51 (3.16-8.89) | 6.66 (1.79-6.75) | 4.48 (1.34-4.18) | 6.1 (1.35-6.08) | 6.06 (1.23-7.38) | 24.04 (7.28-17.31) | 12.7 (3.88-9.76) | 7.57 (2.41-6.31) | 4.8 (1.42-4.74) | 3.23 (0.96-2.92) | 4.39 (0.99-4.34) | 4.37 (0.89-5.44) |
|  *25-34 years* | 35.56 (12.75-20.41) | 18.79 (6.52-12.53) | 11.2 (4.01-7.99) | 7.1 (2.23-6.23) | 4.78 (1.57-3.8) | 6.5 (1.56-5.93) | 6.46 (1.29-8.02) | 25.62 (9.21-15.28) | 13.54 (4.82-9.12) | 8.07 (3.06-5.56) | 5.12 (1.69-4.5) | 3.44 (1.17-2.73) | 4.68 (1.16-4.22) | 4.66 (0.94-5.94) |
|  *35-44 years* | 39.86 (14.6-22.48) | 21.06 (7.6-13.81) | 12.55 (4.52-8.43) | 7.96 (2.51-7.07) | 5.35 (1.74-4.32) | 7.28 (1.7-6.75) | 7.24 (1.47-8.98) | 28.72 (10.08-17.12) | 15.17 (5.4-10.35) | 9.04 (3.29-6.32) | 5.74 (1.83-5.14) | 3.86 (1.26-3.18) | 5.25 (1.29-4.74) | 5.22 (1.08-6.58) |
|  *45+ years* | 53.56 (18.88-30.5) | 28.3 (9.88-18.33) | 16.87 (6.05-11.69) | 10.7 (3.34-9.21) | 7.19 (2.34-5.76) | 9.79 (2.21-9.07) | 9.73 (1.92-12.19) | 38.59 (13.19-23.27) | 20.39 (7.15-13.75) | 12.15 (4.33-8.54) | 7.71 (2.51-6.82) | 5.18 (1.7-4.14) | 7.05 (1.65-6.66) | 7.01 (1.36-9.19) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 10.86 (5.24-24.12) | 7.11 (3.25-15.37) | 4.48 (2.09-9.81) | 3.51 (1.37-8.91) | 3.57 (1.55-8.62) | 5.64 (2.27-16.69) | 2.52 (0.91-7.66) | 7.8 (3.7-17.03) | 5.11 (2.42-10.96) | 3.22 (1.52-7.02) | 2.52 (1.04-6.05) | 2.56 (1.13-6.23) | 4.05 (1.63-11.51) | 1.81 (0.65-5.06) |
|  *25-34 years* | 7.88 (5.1-12.05) | 5.15 (3.22-8.06) | 3.25 (1.97-5.42) | 2.55 (1.29-5.09) | 2.59 (1.48-4.88) | 4.09 (1.83-10.18) | 1.83 (0.69-4.89) | 5.66 (3.67-8.71) | 3.7 (2.37-5.8) | 2.33 (1.42-3.79) | 1.83 (0.96-3.39) | 1.86 (1.11-3.23) | 2.94 (1.25-7.07) | 1.31 (0.52-3.16) |
|  *35-44 years* | 7.57 (5.19-11.19) | 4.96 (3.17-7.79) | 3.12 (1.93-5) | 2.45 (1.24-4.91) | 2.49 (1.44-4.47) | 3.93 (1.69-10.34) | 1.76 (0.66-4.72) | 5.44 (3.59-8.47) | 3.56 (2.18-5.7) | 2.24 (1.41-3.55) | 1.76 (0.92-3.31) | 1.79 (1.05-3.14) | 2.82 (1.16-7.09) | 1.26 (0.47-3.12) |
|  *45+ years* | 8.96 (6.13-13.27) | 5.86 (3.91-9.04) | 3.69 (2.35-5.92) | 2.9 (1.46-5.81) | 2.94 (1.68-5.35) | 4.65 (2.04-12.33) | 2.08 (0.76-5.74) | 6.43 (4.3-9.84) | 4.21 (2.73-6.62) | 2.65 (1.67-4.16) | 2.08 (1.14-4.11) | 2.11 (1.23-3.67) | 3.34 (1.45-8.72) | 1.49 (0.57-3.79) |
| **>12 months after ART initiation** |
|  *15-24 years* | 5.83 (2.72-12.13) | 3.82 (1.72-8.29) | 2.4 (1.12-5.31) | 1.89 (0.72-4.73) | 1.91 (0.81-4.58) | 3.03 (1.17-9.21) | 1.35 (0.47-4.16) | 4.19 (2.02-9.01) | 2.74 (1.33-5.81) | 1.73 (0.84-3.71) | 1.35 (0.54-3.3) | 1.38 (0.61-3.34) | 2.17 (0.87-6.4) | 0.97 (0.35-2.77) |
|  *25-34 years* | 4.23 (2.8-6.44) | 2.77 (1.79-4.33) | 1.74 (1.07-2.87) | 1.37 (0.69-2.76) | 1.39 (0.81-2.63) | 2.2 (0.91-5.54) | 0.98 (0.36-2.62) | 3.04 (2.04-4.71) | 1.99 (1.3-3.09) | 1.25 (0.8-2.02) | 0.98 (0.54-1.84) | 1 (0.6-1.78) | 1.58 (0.66-3.81) | 0.7 (0.27-1.78) |
|  *35-44 years* | 4.07 (2.86-5.78) | 2.66 (1.75-4.15) | 1.68 (1.07-2.64) | 1.31 (0.71-2.62) | 1.33 (0.79-2.42) | 2.11 (0.88-5.86) | 0.94 (0.35-2.6) | 2.92 (2.02-4.32) | 1.91 (1.19-3.06) | 1.2 (0.78-1.86) | 0.94 (0.51-1.82) | 0.96 (0.57-1.66) | 1.52 (0.63-4.2) | 0.68 (0.27-1.73) |
|  *45+ years* | 4.81 (3.41-6.93) | 3.15 (2.18-4.62) | 1.98 (1.3-3.09) | 1.55 (0.84-3.04) | 1.58 (0.93-2.94) | 2.5 (1.07-6.37) | 1.11 (0.43-3.19) | 3.45 (2.39-5.11) | 2.26 (1.53-3.42) | 1.42 (0.94-2.2) | 1.12 (0.62-2.09) | 1.13 (0.68-2.03) | 1.79 (0.76-4.71) | 0.8 (0.32-2.04) |

**Supplementary Table S11**  Corrected mortality rates (per 100 person years) including 95% confidence intervals for West Africa.

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 28.28 (21.97-36.61) | 17.92 (13.62-23.58) | 10.48 (7.8-13.63) | 6.33 (4.6-8.58) | 5.4 (3.91-7.28) | 4.69 (3.11-6.9) | 2.98 (1.79-4.69) | 21.27 (16.44-27.68) | 13.48 (10.26-17.86) | 7.88 (6.11-10.27) | 4.76 (3.59-6.35) | 4.06 (3.03-5.42) | 3.53 (2.44-5.09) | 2.24 (1.39-3.56) |
|  *25-34 years* | 24.21 (19.29-30.43) | 15.34 (11.85-19.66) | 8.97 (6.93-11.38) | 5.42 (4.07-7.09) | 4.62 (3.42-6.21) | 4.02 (2.72-5.79) | 2.55 (1.57-3.92) | 18.21 (14.67-22.25) | 11.54 (9.12-14.54) | 6.75 (5.4-8.32) | 4.08 (3.18-5.24) | 3.48 (2.65-4.51) | 3.02 (2.08-4.19) | 1.92 (1.21-2.91) |
|  *35-44 years* | 29.22 (23.69-35.64) | 18.52 (14.88-23.08) | 10.82 (8.62-13.45) | 6.54 (5.07-8.49) | 5.58 (4.24-7.16) | 4.85 (3.35-6.78) | 3.08 (1.96-4.67) | 21.98 (17.54-27.01) | 13.93 (11.16-17.29) | 8.14 (6.58-9.96) | 4.92 (3.86-6.17) | 4.19 (3.21-5.36) | 3.65 (2.55-5.08) | 2.32 (1.45-3.57) |
|  *45+ years* | 42.37 (34.42-51.76) | 26.85 (21.02-33.51) | 15.69 (12.53-19.29) | 9.48 (7.33-12.03) | 8.08 (6.02-10.53) | 7.03 (4.86-9.78) | 4.47 (2.81-6.82) | 31.87 (25.2-39.32) | 20.19 (15.89-25.62) | 11.81 (9.35-14.6) | 7.13 (5.61-8.97) | 6.08 (4.63-7.75) | 5.29 (3.72-7.3) | 3.36 (2.13-5.23) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 12.03 (9.12-16.44) | 8.78 (6.52-11.92) | 5.82 (4.41-7.87) | 4.35 (3.2-5.98) | 3.9 (2.87-5.47) | 3.61 (2.52-5.1) | 2.34 (1.54-3.54) | 9.41 (7.19-12.4) | 6.86 (5.09-9.19) | 4.55 (3.49-6.08) | 3.4 (2.56-4.54) | 3.05 (2.27-4.13) | 2.82 (1.97-3.94) | 1.83 (1.21-2.77) |
|  *25-34 years* | 9.27 (6.88-12.6) | 6.76 (4.92-9.2) | 4.48 (3.31-6.14) | 3.35 (2.43-4.58) | 3.01 (2.19-4.2) | 2.78 (1.93-3.91) | 1.8 (1.16-2.76) | 7.25 (5.36-9.64) | 5.29 (3.88-7.03) | 3.51 (2.6-4.57) | 2.62 (1.92-3.43) | 2.35 (1.73-3.18) | 2.18 (1.52-3.01) | 1.41 (0.92-2.14) |
|  *35-44 years* | 11.5 (8.72-15.25) | 8.39 (6.27-11.05) | 5.56 (4.18-7.35) | 4.16 (3.13-5.48) | 3.73 (2.8-5.07) | 3.45 (2.46-4.88) | 2.23 (1.51-3.39) | 9 (6.81-11.87) | 6.56 (4.97-8.65) | 4.35 (3.29-5.67) | 3.25 (2.47-4.21) | 2.92 (2.22-3.84) | 2.7 (1.92-3.76) | 1.75 (1.18-2.57) |
|  *45+ years* | 17.41 (13.33-22.46) | 12.7 (9.6-16.41) | 8.42 (6.42-10.94) | 6.3 (4.78-8.19) | 5.65 (4.2-7.62) | 5.23 (3.73-7.17) | 3.38 (2.25-5.05) | 13.61 (10.22-18.05) | 9.93 (7.36-12.91) | 6.58 (5-8.58) | 4.92 (3.69-6.44) | 4.42 (3.25-5.9) | 4.09 (2.85-5.72) | 2.64 (1.77-3.96) |
| **>12 months after ART initiation** |
|  *15-24 years* | 6.64 (5.04-8.67) | 4.84 (3.66-6.4) | 3.21 (2.49-4.23) | 2.4 (1.82-3.23) | 2.15 (1.64-2.93) | 1.99 (1.41-2.73) | 1.29 (0.87-1.91) | 5.19 (3.97-6.74) | 3.79 (2.87-4.84) | 2.51 (1.97-3.26) | 1.88 (1.46-2.45) | 1.68 (1.29-2.2) | 1.56 (1.12-2.15) | 1.01 (0.68-1.47) |
|  *25-34 years* | 5.11 (3.88-6.66) | 3.73 (2.84-4.89) | 2.47 (1.86-3.22) | 1.85 (1.39-2.45) | 1.66 (1.24-2.25) | 1.53 (1.1-2.14) | 0.99 (0.66-1.48) | 4 (3.06-5.19) | 2.92 (2.21-3.76) | 1.93 (1.48-2.55) | 1.45 (1.11-1.86) | 1.3 (0.99-1.7) | 1.2 (0.85-1.64) | 0.78 (0.52-1.15) |
|  *35-44 years* | 6.35 (4.96-8.12) | 4.63 (3.57-5.9) | 3.07 (2.4-3.92) | 2.3 (1.77-2.97) | 2.06 (1.58-2.71) | 1.91 (1.37-2.63) | 1.23 (0.84-1.83) | 4.96 (3.83-6.32) | 3.62 (2.78-4.59) | 2.4 (1.9-3.06) | 1.79 (1.4-2.29) | 1.61 (1.24-2.07) | 1.49 (1.07-2.03) | 0.96 (0.66-1.39) |
|  *45+ years* | 9.6 (7.56-11.89) | 7.01 (5.54-8.77) | 4.65 (3.71-5.75) | 3.47 (2.68-4.37) | 3.12 (2.39-4.03) | 2.88 (2.11-3.84) | 1.86 (1.27-2.7) | 7.51 (5.85-9.52) | 5.48 (4.24-6.88) | 3.63 (2.87-4.61) | 2.72 (2.11-3.42) | 2.44 (1.88-3.15) | 2.25 (1.62-3.07) | 1.46 (0.98-2.12) |

**Supplementary Table S12** Corrected mortality rates (per 100 person years) including 95% confidence intervals for Central Africa.

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 25.04 (13.63-42.84) | 10.19 (5.55-17.17) | 4.72 (2.79-7.62) | 3.26 (1.87-5.46) | 1.81 (1.08-2.95) | 1.99 (1.03-3.37) | 3.09 (1.2-6.53) | 16.47 (8.68-27.76) | 6.7 (3.62-11.77) | 3.11 (1.87-4.86) | 2.14 (1.31-3.25) | 1.19(0.78-1.76) | 1.31(0.76-2.08) | 2.03(0.83-3.87) |
|  *25-34 years* | 22.74 (13.16-36.61) | 9.25 (4.88-14.95) | 4.29 (2.49-7.2) | 2.96 (1.75-4.63) | 1.65 (1.03-2.55) | 1.81 (0.99-3.07) | 2.8 (1.09-6.04) | 14.96 (7.99-24.77) | 6.09 (3.11-10.51) | 2.82 (1.63-4.48) | 1.95(1.14-2.99) | 1.08 (0.68-1.56) | 1.19 (0.69-1.85) | 1.84 (0.75-3.46) |
|  *35-44 years* | 19.31 (10.43-31.88) | 7.86 (4.31-12.33) | 3.64 (2.08-5.81) | 2.51 (1.41-4.05) | 1.4 (0.81-2.17) | 1.54 (0.79-2.63) | 2.38 (0.87-5.4) | 12.7 (6.64-21.98) | 5.17 (2.8-8.55) | 2.4 (1.41-3.7) | 1.65 (0.96-2.52) | 0.92 (0.56-1.35) | 1.01(0.57-1.65) | 1.57(0.63-3.26) |
|  *45+ years* | 35.25 (19.98-55.75) | 14.35 (7.91-22.89) | 6.65 (3.73-10.71) | 4.59 (2.29-8.12) | 2.55 (1.32-4.31) | 2.8 (1.33-5.06) | 4.35 (1.6-10.04) | 23.19 (12.87-39.17) | 9.44(4.92-16.18) | 4.37 (2.47-6.81) | 3.02 (1.6-5) | 1.68(0.95-2.62) | 1.84 (0.94-3.17) | 2.86(1.14-6.16) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 8.95 (5.16-14.46) | 7.11 (4.49-10.93) | 3.91 (2.63-5.65) | 3.37 (2.37-4.73) | 2.86 (2.01-4.06) | 2.61 (1.77-3.82) | 2.41 (1.53-3.67) | 5.91 (3.47-9.37) | 4.7 (2.95-7.04) | 2.58 (1.7-3.65) | 2.23 (1.5-3.04) | 1.89(1.31-2.61) | 1.72 (1.16-2.51) | 1.59 (0.98-2.47) |
|  *25-34 years* | 8.35 (4.63-13.72) | 6.64 (4.16-10.3) | 3.65 (2.46-5.3) | 3.15 (2.14-4.57) | 2.67 (1.83-3.84) | 2.44 (1.59-3.54) | 2.25 (1.38-3.51) | 5.52 (3.23-9) | 4.39 (2.74-6.6) | 2.41 (1.6-3.55) | 2.08 (1.4-3.01) | 1.76 (1.2-2.52) | 1.61(1.07-2.32) | 1.49 (0.92-2.37) |
|  *35-44 years* | 8.9 (4.9-14.45) | 7.07 (4.33-11.1) | 3.89 (2.52-5.68) | 3.36 (2.23-4.85) | 2.84 (1.88-4.1) | 2.6 (1.67-3.86) | 2.4 (1.49-3.7) | 5.88 (3.36-9.36) | 4.67(2.89-7.2) | 2.57 (1.65-3.76) | 2.22 (1.44-3.18) | 1.88 (1.25-2.71) | 1.72 (1.13-2.57) | 1.58 (0.97-2.44) |
|  *45+ years* | 9.69 (5.57-16.03) | 7.7 (4.66-12.04) | 4.23 (2.75-6.18) | 3.65(2.45-5.42) | 3.09 (2.03-4.65) | 2.83 (1.77-4.42) | 2.61 (1.48-4.35) | 6.4 (3.72-10.04) | 5.09 (3.09-7.57) | 2.8(1.77-4.15) | 2.41 (1.57-3.58) | 2.04(1.33-3.05) | 1.87 (1.18-2.85) | 1.72 (1-2.8) |
| **>12 months after ART initiation** |
|  *15-24 years* | 4.87 (2.94-7.56) | 3.87(2.5-5.72) | 2.13(1.53-2.91) | 1.84 (1.33-2.53) | 1.56 (1.11-2.18) | 1.42 (0.98-2.06) | 1.31 (0.86-2.01) | 3.22 (2-4.91) | 2.56 (1.7-3.62) | 1.41 (0.98-1.9) | 1.21(0.85-1.66) | 1.03 (0.74-1.39) | 0.94 (0.65-1.35) | 0.87 (0.56-1.33) |
|  *25-34 years* | 4.55 (2.7-7.35) | 3.62 (2.21-5.45) | 1.99(1.34-2.82) | 1.72 (1.12-2.43) | 1.45 (0.97-2.06) | 1.33 (0.89-1.98) | 1.23 (0.77-1.93) | 3.01 (1.78-4.68) | 2.39 (1.51-3.47) | 1.31 (0.89-1.82) | 1.13(0.77-1.61) | 0.96 (0.65-1.34) | 0.88(0.6-1.27) | 0.81 (0.52-1.26) |
|  *35-44 years* | 4.85 (2.87-7.35) | 3.86 (2.52-5.58) | 2.12 (1.48-2.96) | 1.83 (1.3-2.54) | 1.55 (1.08-2.19) | 1.42 (0.98-2.01) | 1.31 (0.87-1.97) | 3.2 (1.98-4.79) | 2.55 (1.68-3.66) | 1.4(0.96-1.92) | 1.21(0.86-1.67) | 1.02 (0.73-1.42) | 0.94(0.65-1.33) | 0.86(0.56-1.32) |
|  *45+ years* | 5.28 (3.17-8.27) | 4.2 (2.66-6.14) | 2.31 (1.57-3.29) | 1.99 (1.36-2.85) | 1.68 (1.12-2.52) | 1.54 (0.99-2.37) | 1.42 (0.87-2.33) | 3.49 (2.12-5.31) | 2.77(1.78-3.95) | 1.52 (1.03-2.12) | 1.32 (0.89-1.84) | 1.11 (0.75-1.6) | 1.02 (0.66-1.52) | 0.94(0.55-1.53) |

**Supplementary Table S13** Corrected mortality rates (per 100 person years) including 95% confidence intervals for Latin America.

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 23.96 (16.74-33.5) | 14.26 (9.81-20.93) | 9.99 (6.51-14.74) | 5.15 (3.35-7.49) | 3.09 (2.04-4.5) | 2.74 (1.51-4.4) | 2.55 (0.96-5.47) | 19.03 (11.97-28.51) | 11.33 (7.13-17.42) | 7.94 (4.98-12.25) | 4.09 (2.57-6.15) | 2.45 (1.5-3.72) | 2.18 (1.17-3.63) | 2.03 (0.74-4.35) |
|  *25-34 years* | 23.02 (16.26-30.76) | 13.71 (9.42-19.58) | 9.6 (6.5-13.17) | 4.95 (3.22-7.07) | 2.97 (1.93-4.3) | 2.63 (1.42-4.22) | 2.45 (0.92-5.2) | 18.28 (11.91-25.87) | 10.88 (6.83-16.08) | 7.62 (5.07-11.05) | 3.93 (2.49-5.78) | 2.36 (1.45-3.46) | 2.09 (1.09-3.5) | 1.95 (0.72-3.99) |
|  *35-44 years* | 28.46 (20.68-38.35) | 16.95 (11.63-23.95) | 11.87 (8.04-16.55) | 6.12 (4.03-8.6) | 3.67 (2.51-5.29) | 3.26 (1.83-5.28) | 3.03 (1.15-6.65) | 22.61 (14.74-32.35) | 13.46 (8.71-19.61) | 9.43 (6.14-13.65) | 4.86 (3.26-7.05) | 2.92 (1.85-4.32) | 2.59 (1.41-4.33) | 2.41 (0.88-4.96) |
|  *45+ years* | 40.43 (29.01-54.91) | 24.07 (16.74-34) | 16.86 (11.57-23.71) | 8.7 (5.92-12.2) | 5.22 (3.52-7.31) | 4.63 (2.6-7.47) | 4.31 (1.64-9.03) | 32.1 (21.26-46.2) | 19.11 (12.4-28.41) | 13.39 (9.06-19.63) | 6.91 (4.52-9.88) | 4.14 (2.6-6.1) | 3.67 (1.96-6.09) | 3.42 (1.29-7.05) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 7.64 (4.96-11.21) | 6.75 (4.35-9.82) | 4.55 (3.01-6.72) | 2.98 (1.89-4.55) | 1.94 (1.25-2.78) | 2.39 (1.3-3.86) | 3.22 (1.16-6.72) | 7.98 (4.76-12.58) | 7.05 (4.25-10.88) | 4.75 (3.14-7.14) | 3.12 (2.08-4.8) | 2.03 (1.35-2.96) | 2.5 (1.34-4.12) | 3.36 (1.19-7.12) |
|  *25-34 years* | 7.11 (4.33-10.57) | 6.28 (3.78-9.39) | 4.23 (2.73-6.21) | 2.78 (1.69-4.14) | 1.81 (1.11-2.69) | 2.22 (1.21-3.83) | 2.99 (1.14-6.32) | 7.43 (4.02-11.81) | 6.56 (3.8-10.14) | 4.42 (2.8-6.47) | 2.9 (1.83-4.29) | 1.89 (1.17-2.82) | 2.32 (1.24-3.86) | 3.13 (1.15-6.84) |
|  *35-44 years* | 6.99 (4.56-10.58) | 6.17 (3.92-9.5) | 4.16 (2.6-6.33) | 2.73 (1.7-4.24) | 1.78 (1.09-2.64) | 2.18 (1.17-3.79) | 2.94 (1.06-6.35) | 7.3 (4.2-11.51) | 6.45 (3.87-10.15) | 4.35 (2.71-6.61) | 2.85 (1.83-4.44) | 1.86 (1.17-2.76) | 2.28 (1.19-4.01) | 3.08 (1.1-6.7) |
|  *45+ years* | 12.16 (7.95-17.38) | 10.74 (6.74-15.83) | 7.24 (4.58-10.87) | 4.75 (2.82-7.42) | 3.09 (1.89-4.72) | 3.8 (1.97-6.4) | 5.12 (1.8-11.32) | 12.71 (7.82-19.36) | 11.22 (6.98-16.95) | 7.56 (4.99-10.84) | 4.96 (3.18-7.4) | 3.23 (2.09-4.66) | 3.97 (2.12-6.75) | 5.35 (1.93-12.14) |
| **>12 months after ART initiation** |
|  *15-24 years* | 3.05 (1.96-4.44) | 2.69 (1.79-3.88) | 1.82 (1.19-2.64) | 1.19 (0.77-1.74) | 0.78 (0.52-1.13) | 0.95 (0.56-1.51) | 1.28 (0.49-2.69) | 3.19 (1.87-5.11) | 2.81 (1.69-4.39) | 1.9 (1.21-2.88) | 1.24 (0.8-1.87) | 0.81 (0.52-1.2) | 1 (0.56-1.68) | 1.34 (0.5-2.84) |
|  *25-34 years* | 2.84 (1.71-4.3) | 2.51 (1.54-3.63) | 1.69 (1.04-2.55) | 1.11 (0.68-1.64) | 0.72 (0.44-1.09) | 0.89 (0.5-1.5) | 1.2 (0.47-2.48) | 2.97 (1.61-4.94) | 2.62 (1.46-4.03) | 1.77 (1.06-2.63) | 1.16 (0.71-1.74) | 0.75 (0.45-1.15) | 0.93 (0.5-1.63) | 1.25 (0.48-2.62) |
|  *35-44 years* | 2.79 (1.82-3.99) | 2.46 (1.6-3.55) | 1.66 (1.06-2.4) | 1.09 (0.71-1.6) | 0.71 (0.46-1.01) | 0.87 (0.5-1.41) | 1.18 (0.45-2.44) | 2.92 (1.65-4.61) | 2.57 (1.6-4.03) | 1.74 (1.08-2.64) | 1.14 (0.73-1.69) | 0.74 (0.48-1.1) | 0.91 (0.51-1.58) | 1.23 (0.45-2.55) |
|  *45+ years* | 4.86 (3.23-6.79) | 4.29 (2.74-5.99) | 2.89 (1.8-4.24) | 1.9 (1.14-2.87) | 1.23 (0.77-1.79) | 1.52 (0.86-2.45) | 2.04 (0.77-4.28) | 5.07 (3.09-7.78) | 4.48 (2.84-6.61) | 3.02 (1.97-4.39) | 1.98 (1.25-2.97) | 1.29 (0.81-1.91) | 1.59 (0.9-2.65) | 2.14 (0.77-4.58) |

**Supplementary Table S14**  Corrected mortality rates (per 100 person years) including 95% confidence intervals for Asia Pacific.

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 22.10(14.46-32.19) | 12.49 (7.88-19.29) | 7.16 (4.56-11.56) | 3.21 (2.05-4.86) | 2.71 (1.64-4.32) | 3.38 (1.55-6.41) | 2.13 (0.88-4.74) | 21.39 (13.17-33.39) | 12.09(6.98-19.84) | 6.93 (4.15-11.44) | 3.11(1.88-4.79) | 2.62 (1.5-4.42) | 3.28 (1.4-6.38) | 2.06 (0.85-4.62) |
|  *25-34 years* | 16.5 (11.14-22.97) | 9.33(6.02-13.48) | 5.35 (3.43-7.66) | 2.4 (1.57-3.35) | 2.02 (1.23-3.17) | 2.53 (1.22-4.47) | 1.59(0.68-3.72) | 15.97 (10.1-23.28) | 9.03(5.51-13.43) | 5.18 (3.33-7.42) | 2.32 (1.52-3.27) | 1.96(1.14-3.03) | 2.45(1.13-4.39) | 1.54 (0.65-3.53) |
|  *35-44 years* | 19.49 (13.39-26.24) | 11.01 (7.46-14.85) | 6.32 (4.08-9.04) | 2.83 (1.9-3.95) | 2.39 (1.45-3.65) | 2.98 (1.39-5.56) | 1.88 (0.8-4.14) | 18.86 (12.13-27.99) | 10.66 (6.86-15.7) | 6.11(3.75-9.01) | 2.74 (1.76-3.99) | 2.31(1.3-3.64) | 2.89(1.27-5.47) | 1.82 (0.76-3.82) |
|  *45+ years* | 24.21 (17.02-32.43) | 13.68(8.95-19.21) | 7.85 (5-11.4) | 3.52 (2.32-5.02) | 2.97 (1.78-4.62) | 3.71 (1.76-6.61) | 2.33 (0.98-5.4) | 23.43(14.89-33.82) | 13.24 (8.11-20.14) | 7.59 (4.6-11.38) | 3.4 (2.18-5.09) | 2.87(1.64-4.77) | 3.59(1.62-6.84) | 2.26 (0.97-4.9) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 3.84(2.31-6.34) | 6.7 (4.26-10.39) | 2.74 (1.66-4.37) | 1.85 (1-3.15) | 1.19 (0.63-2.09) | 1.55 (0.54-3.1) | 0.83 (0.24-2.26) | 1.94(0.98-3.58) | 3.4(1.76-5.97) | 1.39 (0.71-2.49) | 0.94 (0.42-1.77) | 0.6(0.28-1.08) | 0.79(0.24-1.61) | 0.42 (0.1-1.15) |
|  *25-34 years* | 5.05 (2.88-8.38) | 8.82 (5.22-13.94) | 3.6 (2.09-5.78) | 2.43 (1.34-4.03) | 1.56 (0.77-2.77) | 2.04 (0.68-4.15) | 1.1(0.32-2.83) | 2.56 (1.35-4.41) | 4.47 (2.24-7.76) | 1.83(0.93-3.08) | 1.23 (0.57-2.15) | 0.79(0.35-1.44) | 1.03(0.31-2.2) | 0.56(0.14-1.55) |
|  *35-44 years* | 5.7 (3.43-8.86) | 9.95 (6.12-15.27) | 4.07 (2.38-6.14) | 2.74 (1.49-4.61) | 1.77 (0.93-2.94) | 2.3 (0.79-4.62) | 1.24(0.35-3.44) | 2.89 (1.43-4.9) | 5.04 (2.52-8.79) | 2.06 (1.04-3.56) | 1.39 (0.6-2.52) | 0.9(0.43-1.57) | 1.17(0.37-2.42) | 0.63 (0.15-1.8) |
|  *45+ years* | 8.8 (5.54-13.07) | 15.37 (9.7-22.66) | 6.28 (3.77-9.6) | 4.24 (2.26-7.02) | 2.73 (1.41-4.52) | 3.55 (1.24-6.95) | 1.91(0.56-4.96) | 4.46(2.32-7.35) | 7.79 (3.87-12.99) | 3.18 (1.6-5.36) | 2.15 (0.97-3.93) | 1.38(0.66-2.42) | 1.8(0.56-3.65) | 0.97 (0.25-2.72) |
| **>12 months after ART initiation** |
|  *15-24 years* | 1.73 (1.09-2.69) | 3.03 (2.01-4.5) | 1.24 (0.8-1.82) | 0.83 (0.5-1.33) | 0.54 (0.3-0.86) | 0.7 (0.22-1.4) | 0.38(0.11-0.98) | 0.88 (0.46-1.48) | 1.53 (0.78-2.68) | 0.63(0.31-1.08) | 0.42 (0.19-0.75) | 0.27(0.13-0.46) | 0.35(0.11-0.7) | 0.19(0.05-0.51) |
|  *25-34 years* | 2.28 (1.32-3.62) | 3.98 (2.34-6.27) | 1.63 (0.96-2.57) | 1.1 (0.61-1.75) | 0.71 (0.36-1.25) | 0.92(0.29-1.93) | 0.5 (0.14-1.27) | 1.15 (0.58-2.02) | 2.02 (0.99-3.47) | 0.82(0.41-1.4) | 0.56 (0.27-0.95) | 0.36 (0.16-0.63) | 0.47 (0.13-0.97) | 0.25(0.06-0.66) |
|  *35-44 years* | 2.57 (1.65-3.75) | 4.49 (2.95-6.55) | 1.84 (1.12-2.71) | 1.24 (0.72-1.91) | 0.8 (0.45-1.22) | 1.04 (0.35-2.09) | 0.56 (0.16-1.5) | 1.3 (0.69-2.19) | 2.28 (1.15-3.86) | 0.93 (0.47-1.57) | 0.63(0.3-1.12) | 0.4 (0.2-0.68) | 0.53 (0.15-1.11) | 0.28 (0.07-0.76) |
|  *45+ years* | 3.97 (2.65-5.62) | 6.94 (4.57-10.04) | 2.84 (1.81-4.29) | 1.91 (1.12-3.08) | 1.23 (0.7-1.94) | 1.6(0.56-3.17) | 0.86 (0.25-2.22) | 2.01 (1.14-3.22) | 3.52 (1.83-5.84) | 1.44 (0.75-2.44) | 0.97 (0.45-1.73) | 0.62 (0.31-1.06) | 0.81(0.25-1.67) | 0.44(0.11-1.14) |

**Supplementary Table S15**  Corrected mortality rates (per 100 person years) including 95% confidence intervals for North America.

|  |  |  |
| --- | --- | --- |
|  | **MEN** | **WOMEN** |
|  | **CD4 categories in adult males** | **CD4 categories in adult females** |
|  | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* | *<50* | *50-99* | *100-199* | *200-249* | *250-349* | *350-500* | *>500* |
| **<6 months after ART initiation** |
|  *15-24 years* | 3.65 (1.57-7.04) | 3.6 (1.58-6.71) | 1.39 (0.77-2.19) | 1.16 (0.57-1.97) | 0.89 (0.44-1.44) | 0.53 (0.28-0.84) | 0.41 (0.19-0.77) | 5.26 (1.94-10) | 5.2 (1.8-10.31) | 2 (0.68-4.04) | 1.68 (0.58-3.36) | 1.28 (0.45-2.56) | 0.77 (0.29-1.39) | 0.6 (0.23-1.14) |
|  *25-34 years* | 4.42 (1.94-7.97) | 4.37 (1.75-8.18) | 1.68 (0.75-2.87) | 1.41 (0.53-2.79) | 1.07 (0.37-2.18) | 0.64(0.23-1.2) | 0.5 (0.17-1.07) | 6.38 (2.22-12.29) | 6.3 (1.96-13.33) | 2.42 (0.69-5.38) | 2.03 (0.53-4.76) | 1.55 (0.39-3.8) | 0.93 (0.27-2.15) | 0.73 (0.21-1.69) |
|  *35-44 years* | 2.72 (1.09-5.29) | 2.69 (1.02-5.38) | 1.03 (0.39-1.9) | 0.87 (0.29-1.91) | 0.66 (0.25-1.23) | 0.4 (0.17-0.68) | 0.31 (0.13-0.62) | 3.93 (1.16-8.38) | 3.88 (0.99-9.16) | 1.49 (0.35-3.6) | 1.25 (0.28-3.22) | 0.95 (0.25-2.27) | 0.57 (0.16-1.22) | 0.45 (0.12-0.98) |
|  *45+ years* | 6.97 (2.7-13.82) | 6.89 (2.61-13.85) | 2.65 (1.37-4.37) | 2.22 (1.12-3.64) | 1.69 (0.76-2.89) | 1.01 (0.49-1.69) | 0.79 (0.34-1.58) | 10.07 (3.94-18.9) | 9.95 (3.23-20.18) | 3.83 (1.44-7.23) | 3.21 (1.26-6.08) | 2.45 (0.94-4.55) | 1.47 (0.61-2.59) | 1.15 (0.47-2.12) |
| **6-12 months after ART initiation** |
|  *15-24 years* | 6.33 (3.64-10.08) | 4.97 (2.9-7.76) | 3.13 (2.01-4.54) | 2.45 (1.61-3.53) | 2.01 (1.34-2.85) | 1.69 (1.1-2.43) | 1.83 (1.1-2.7) | 5.1 (2.78-8.64) | 4 (2.15-6.93) | 2.52 (1.51-4.02) | 1.97 (1.19-3.12) | 1.62 (0.98-2.46) | 1.36 (0.82-2.12) | 1.47 (0.84-2.42) |
|  *25-34 years* | 4.65 (2.54-7.64) | 3.65 (2.01-6.03) | 2.3 (1.36-3.58) | 1.8 (1.13-2.71) | 1.48 (0.92-2.27) | 1.24 (0.78-1.86) | 1.34 (0.78-2.09) | 3.75 (1.8-6.97) | 2.94 (1.37-5.74) | 1.85 (0.97-3.38) | 1.45 (0.77-2.54) | 1.19 (0.63-2.07) | 1 (0.54-1.69) | 1.08 (0.55-1.93) |
|  *35-44 years* | 6.94 (3.73-11.56) | 5.45 (2.8-9.29) | 3.43 (1.93-5.42) | 2.68 (1.62-4.15) | 2.2 (1.34-3.42) | 1.86 (1.1-3.02) | 2 (1.12-3.41) | 5.59 (2.94-9.57) | 4.39 (2.3-8.16) | 2.77 (1.57-4.64) | 2.16 (1.26-3.5) | 1.77 (1.02-2.86) | 1.5 (0.84-2.49) | 1.61 (0.86-2.84) |
|  *45+ years* | 11.24 (6.38-17.67) | 8.82 (5.28-13.78) | 5.55 (3.45-8.48) | 4.34 (2.68-6.61) | 3.56 (2.21-5.26) | 3 (1.9-4.38) | 3.24 (1.97-4.88) | 9.05 (4.89-15.16) | 7.1 (3.95-12.1) | 4.47 (2.68-7.34) | 3.5 (2.02-5.56) | 2.87 (1.69-4.36) | 2.42 (1.44-3.73) | 2.61 (1.45-4.29) |
| **>12 months after ART initiation** |
|  *15-24 years* | 4.68 (3.15-6.79) | 3.68 (2.43-5.46) | 2.32 (1.64-3.31) | 1.81 (1.29-2.5) | 1.49 (1.06-2.1) | 1.25 (0.86-1.76) | 1.35 (0.88-1.99) | 3.77 (2.22-5.89) | 2.96 (1.73-4.84) | 1.87 (1.14-2.91) | 1.46 (0.9-2.28) | 1.2 (0.74-1.87) | 1.01 (0.62-1.55) | 1.09 (0.62-1.81) |
|  *25-34 years* | 3.44 (2.14-5.31) | 2.7 (1.66-4.25) | 1.7 (1.1-2.58) | 1.33 (0.89-1.97) | 1.09 (0.72-1.62) | 0.92 (0.59-1.31) | 0.99 (0.59-1.54) | 2.77 (1.49-5.17) | 2.18 (1.14-4.37) | 1.37 (0.77-2.51) | 1.07 (0.59-1.95) | 0.88 (0.49-1.63) | 0.74 (0.41-1.31) | 0.8 (0.42-1.48) |
|  *35-44 years* | 5.14 (3.23-7.82) | 4.03 (2.49-6.47) | 2.54 (1.64-3.75) | 1.98 (1.32-2.91) | 1.63 (1.08-2.44) | 1.37 (0.87-2.1) | 1.48 (0.86-2.45) | 4.14 (2.42-6.82) | 3.25 (1.83-5.74) | 2.05 (1.24-3.3) | 1.6 (0.98-2.55) | 1.31 (0.79-2.11) | 1.11 (0.65-1.83) | 1.19 (0.65-2.08) |
|  *45+ years* | 8.31 (5.42-12.17) | 6.52 (4.32-9.44) | 4.11 (2.76-6.24) | 3.21 (2.15-4.84) | 2.64 (1.74-3.92) | 2.22(1.47-3.2) | 2.4 (1.52-3.58) | 6.7 (3.94-10.59) | 5.25 (3.13-8.41) | 3.31 (2.06-5.2) | 2.59 (1.57-4.04) | 2.12 (1.29-3.34) | 1.79 (1.08-2.78) | 1.93 (1.09-3.07) |