**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) |