Supplemental Table 1. HIV incidence, percent change in incidence, and number of recent cases by country, age, and sex by recent infection testing algorithm in the Population-based HIV Impact Assessments, 2015–2019

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| --- | --- | --- | --- |
|  | LAg/VL (RITA1) | LAg/VL/ARV (RITA2) |  |
| Characteristics | Number recent | Incidence (95% CI) | Number recent | Incidence (95% CI) | Percent change |
| Cameroon | 22 | 0.25 (0.12–0.38) | 20 | 0.22 (0.10–0.34) | -12.7 |
|  Male | 3 | 0.07 (0.00–0.17) | 3 | 0.07 (0.00–0.17) | 0.0 |
|  Female | 19 | 0.43 (0.19–0.67) | 17 | 0.37 (0.14–0.59) | -14.9 |
|  15–29 years | 12 | 0.26 (0.06–0.45) | 12 | 0.26 (0.06–0.45) | 0.0 |
|  30–59 years | 10 | 0.25 (0.08–0.42) | 9 | 0.18 (0.04–0.32) | -27.3 |
| Côte d’Ivoire | 5 | 0.03 (-0.01–0.08) | 5 | 0.03 (-0.01–0.08) | 0 |
|  Male | 2 | 0.03 (-0.03–0.09) | 2 | 0.03 (-0.03–0.09) | 0 |
|  Female | 3 | 0.03 (-0.03–0.10) | 3 | 0.03 (-0.03–0.10) | 0 |
|  15–29 years | 3 | 0.04 (-0.03–0.12) | 3 | 0.04 (-0.03–0.12) | 0 |
|  30–59 years | 2 | 0.02 (-0.03–0.06) | 2 | 0.02 (-0.03–0.06) | 0 |
| Eswatini | 33 | 1.39 (0.88–1.89) | 27 | 1.18 (0.71–1.65) | -14.6 |
|  Male | 10 | 0.93 (0.30–1.56) | 8 | 0.80 (0.20–1.40) | -14.0 |
|  Female | 23 | 1.85 (1.02–2.66) | 19 | 1.57 (0.87–2.27) | -14.9 |
|  15–29 years | 23 | 1.54 (0.83–2.24) | 20 | 1.36 (0.71–2.01) | -11.5 |
|  30–59 years | 10 | 1.13 (0.42–1.83) | 7 | 0.88 (0.23–1.52) | -22.0 |
| Ethiopia | 6 | 0.05 (-0.01–0.10) | 4 | 0.03 (-0.01–0.08) | -30.3 |
|  Male | 1 | 0.01 (-0.03–0.05) | 1 | 0.01 (-0.03–0.05) | 0.0 |
|  Female | 5 | 0.09 (-0.01–0.18) | 3 | 0.06 (-0.02–0.14) | -34.1 |
|  15–29 years | 4 | 0.06 (-0.02–0.13) | 3 | 0.04 (-0.02–0.09) | -38.2 |
|  30–59 years | 2 | 0.04 (-0.04–0.12) | 1 | 0.03 (-0.04–0.10) | -17.0 |
| Kenya | 13 | 0.16 (0.07–0.24) | 11 | 0.15 (0.06–0.23 | -6.3 |
|  Male | 4 | 0.14 (0.02–0.25) | 4 | 0.14 (0.02–0.25) | 0.0 |
|  Female | 9 | 0.18 (0.03–0.32) | 7 | 0.16 (0.01–0.30) | -11.3 |
|  15–29 years | 5 | 0.12 (0.02–0.22) | 4 | 0.11 (0.01–0.21) | -6.3 |
|  30–59 years | 8 | 0.20 (0.02–0.37) | 7 | 0.18 (0.01–0.36) | -6.4 |
| Lesotho | 48 | 1.47 (0.95–1.98) | 35 | 1.10 (0.68–1.52) | -24.7 |
|  Male | 15 | 1.22 (0.51–1.94) | 12 | 1.00 (0.42–1.59) | -17.9 |
|  Female | 33 | 1.74 (1.11–2.37) | 23 | 1.22 (0.69–1.74) | -30.2 |
|  15–29 years | 25 | 1.22 (0.71–1.74) | 20 | 0.98 (0.52–1.44) | -20.0 |
|  30–59 years | 23 | 1.82 (0.95–2.68) | 15 | 1.29 (0.59–1.97) | -29.3 |
| Malawi | 29 | 0.40 (0.23–0.58) | 25 | 0.38 (0.20–0.55) | -7.0 |
|  Male | 12 | 0.27 (0.06–0.49) | 10 | 0.24 (0.04–0.44) | -12.8 |
|  Female | 17 | 0.54 (0.23–0.84) | 15 | 0.51 (0.21–0.82) | -4.1 |
|  15–29 years | 11 | 0.27 (0.08–0.46) | 10 | 0.26 (0.07–0.45) | -3.4 |
|  30–59 years | 18 | 0.60 (0.27–0.93) | 15 | 0.54 (0.22–0.87) | -9.3 |
| Namibia | 26 | 0.43 (0.24–0.63) | 22 | 0.38 (0.18–0.57) | -13.4 |
|  Male | 5 | 0.20 (0.01–0.38) | 4 | 0.14 (-0.02–0.29) | -29.7 |
|  Female | 21 | 0.67 (0.31–1.04) | 18 | 0.62 (0.26–0.97) | -8.6 |
|  15–29 years | 16 | 0.48 (0.20–0.75) | 13 | 0.39 (0.14–0.64) | -18.6 |
|  30–59 years | 10 | 0.38 (0.09–0.66) | 9 | 0.36 (0.08–0.64) | -5.1 |
| Rwanda | 10 | 0.10 (0.03–0.16) | 8 | 0.08 (0.02–0.14) | -15.8 |
|  Male | 6 | 0.12 (0.02–0.22) | 4 | 0.09 (0.00–0.18) | -26.4 |
|  Female | 4 | 0.08 (0.00–0.16) | 4 | 0.08 (0.00–0.16) | 0.0 |
|  15–29 years | 6 | 0.11 (0.02–0.19) | 5 | 0.09 (0.01–0.17) | -16.2 |
|  30–59 years | 4 | 0.09 (0.00–0.18) | 3 | 0.08 (0.00–0.16) | -15.3 |
| Tanzania | 37 | 0.29 (0.18–0.41) | 33 | 0.26 (0.16–0.37) | -10.9 |
|  Male | 10 | 0.17 (0.05–0.30) | 10 | 0.17 (0.05–0.30) | 0.0 |
|  Female | 27 | 0.42 (0.24–0.59) | 23 | 0.35 (0.19–0.51) | -15.4 |
|  15–29 years | 10 | 0.11 (0.02–0.21) | 10 | 0.11 (0.02–0.21) | 0.0 |
|  30–59 years | 27 | 0.51 (0.30–0.73) | 23 | 0.44 (0.23–0.66) | -13.9 |
| Uganda | 51 | 0.51 (0.33–0.69) | 42 | 0.41 (0.26–0.57) | -18.5 |
|  Male | 18 | 0.41 (0.19–0.63) | 16 | 0.36 (0.15–0.57) | -12.1 |
|  Female | 33 | 0.60 (0.37–0.83) | 26 | 0.47 (0.27–0.66) | -22.5 |
|  15–29 years | 24 | 0.43 (0.24–0.61) | 22 | 0.39 (0.21–0.57) | -8.1 |
|  30–59 years | 27 | 0.63 (0.34–0.93) | 20 | 0.45 (0.20–0.70) | -29.0 |
| Zambia | 45 | 0.67 (0.45–0.88) | 41 | 0.61 (0.40–0.81) | -8.8 |
|  Male | 10 | 0.32 (0.10–0.54) | 9 | 0.29 (0.08–0.50) | -9.5 |
|  Female | 35 | 1.02 (0.67–1.37) | 32 | 0.93 (0.60–1.26) | -8.6 |
|  15–29 years | 21 | 0.54 (0.29–0.78) | 19 | 0.49 (0.25–0.72) | -9.3 |
|  30–59 years | 24 | 0.86 (0.49–1.23) | 22 | 0.79 (0.44–1.14) | -8.3 |
| Zimbabwe | 32 | 0.47 (0.29–0.66) | 28 | 0.42 (0.24–0.59) | -11.6 |
|  Male | 8 | 0.31 (0.08–0.54) | 8 | 0.31 (0.08–0.54) | 0.0 |
|  Female | 24 | 0.63 (0.35–0.91) | 20 | 0.52 (0.26–0.78) | -17.1 |
|  15–29 years | 19 | 0.45 (0.22–0.69) | 16 | 0.39 (0.17–0.61) | -14.9 |
|  30–59 years | 13 | 0.50 (0.20–0.79) | 12 | 0.46 (0.17–0.74) | -7.7 |

Abbreviations: CI, confidence interval; LAg, HIV-1 Limiting Antigen Avidity test; VL, HIV viral load test; RITA, recent infection testing algorithm; normalized optical density values, ODn; ribonucleic acid, RNA

Incidence estimates were calculated using the formula recommended by the World Health Organization Incidence Working Group and Consortium for Evaluation and Performance of Incidence Assays, with time cutoff (T)=1.0 year, residual proportion false recent (PFR)=0.00, and mean duration of recent infection (MDRI) of 130 days (Eswatini, Lesotho, Malawi, Namibia, Tanzania, Zambia, and Zimbabwe) and 153 days (Uganda). Survey weights are utilized for all estimates.

RITA1= LAg ODn ≤1.5 + VL ≥1000 RNA copies/mL

RITA2= LAg ODn ≤1.5 + VL ≥1000 RNA copies/mL + no antiretroviral medication detected