Nagata JM, Hampshire K, Epstein A, et al. Analysis of heavy rainfall in sub-Saharan Africa and HIV transmission risk, HIV prevalence, and sexually transmitted infections, 2005-2017. *JAMA Netw Open*. 2022;5(9):e2230282. doi:10.1001/jamanetworkopen.2022.30282

eTable. Country-Level Number of Years of Heavy Rainfall in Past 10 Years

**eFigure 1.** Country-Level Associations Among Heavy Rainfall and HIV Prevalence, Ages 15-19 Years

**eFigure 2.** Country-Level Associations Among Heavy Rainfall and Sexually Transmitted Infections in the Past 12 Months, Ages 15-19 Years

**eFigure 3.** Country-Level Associations Among Heavy Rainfall and Number of Sexual Partners in the Past 12 Months, Ages 15-19 Years

This supplementary material has been provided by the authors to give readers additional information about their work.
| Country                          | Survey years                      | Number of years of heavy rainfall in past 10 years | 0 | 1 | 2 | 3 | 4 |
|---------------------------------|-----------------------------------|---------------------------------------------------|---|---|---|---|---|
|                                | (DHS phase)                       | n   | %   | n   | %   | n   | %   | n   | %   |
| Angola                          | 2015-2016 (7)                     | 5785 | 62.5% | 1449 | 15.7% | 32 | 0.3% | 1404 | 15.2% | 583 | 6.3% |
| Burkina Faso                   | 2010 (6)                          | 7729 | 70.0% | 3308 | 30.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Burundi                         | 2012 (6); 2016-2017 (7)          | 1626 | 11.2% | 6692 | 46.1% | 6007 | 41.4% | 196 | 1.3% | 0 | 0.0% |
| Cameroon                        | 2011 (6)                          | 5430 | 50.6% | 536 | 5.0% | 4762 | 44.4% | 0 | 0.0% | 0 | 0.0% |
| Chad                            | 2014-2015 (7)                     | 3911 | 50.5% | 3012 | 38.9% | 817 | 10.6% | 0 | 0.0% | 0 | 0.0% |
| Congo Democratic Republic      | 2013-2014 (6)                     | 9809 | 70.9% | 3465 | 25.0% | 568 | 4.1% | 0 | 0.0% | 0 | 0.0% |
| Cote d'Ivoire                   | 2011-2012 (6)                     | 6900 | 98.2% | 127 | 1.8% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Ethiopia                        | 2005 (5), 2016 (7)                | 13937 | 59.4% | 8810 | 37.6% | 708 | 3.0% | 0 | 0.0% | 0 | 0.0% |
| Gabon                           | 2012 (6)                          | 4900 | 53.2% | 4319 | 46.8% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Ghana                           | 2016 (7)                          | 4336 | 69.8% | 855 | 13.8% | 1018 | 16.4% | 0 | 0.0% | 0 | 0.0% |
| Lesotho                         | 2009 (6), 2014 (7)                | 1247 | 12.8% | 4185 | 43.0% | 3419 | 35.1% | 876 | 9.0% | 0 | 0.0% |
| Malawi                          | 2010 (6), 2015-2016 (7)           | 15529 | 73.6% | 5567 | 26.4% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Mozambique                      | 2018 (7)                          | 5768 | 63.7% | 2726 | 30.1% | 562 | 6.2% | 0 | 0.0% | 0 | 0.0% |
| Rwanda                          | 2013 (6), 2014-2015 (7)           | 3533 | 22.9% | 5729 | 37.2% | 2976 | 19.3% | 3183 | 20.6% | 0 | 0.0% |
| Senegal                         | 2010-2011 (6)                     | 1038 | 16.9% | 557 | 9.1% | 4530 | 74.0% | 0 | 0.0% | 0 | 0.0% |
| Sierra Leone                    | 2008 (5)                          | 4555 | 99.0% | 45 | 1.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Tanzania                        | 2007-2008 (5), 2010 (6)           | 17955 | 76.2% | 4422 | 18.8% | 1183 | 5.0% | 0 | 0.0% | 0 | 0.0% |
| Togo                            | 2013-2014 (6)                     | 2385 | 35.7% | 4302 | 64.3% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Uganda                          | 2011 (6)                          | 10446 | 68.4% | 4831 | 31.6% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Zambia                          | 2007 (5), 2013-2014 (6)           | 22542 | 75.2% | 5506 | 18.4% | 1874 | 6.2% | 70 | 0.2% | 0 | 0.0% |
| Zimbabwe                        | 2010-2011 (6), 2015 (7)           | 4269 | 20.1% | 11027 | 52.0% | 5916 | 27.9% | 0 | 0.0% | 0 | 0.0% |
eFigure 1. Country-level associations among heavy rainfall and HIV prevalence, ages 15-19 years.

All models control for sex, marital status, age, education (none, primary, secondary, and higher), wealth index, urban residence, and survey month. Standard errors are clustered at the enumeration area level.
eFigure 2. Country-level associations among heavy rainfall and sexually transmitted infections in the past 12 months, ages 15-19 years.

Self-reported STD

- Burkina Faso
- Ethiopia
- Mozambique
- Uganda
- Malawi
- Sierra Leone
- Zimbabwe
- Tanzania
- Senegal
- Cameroon
- Zambia
- Rwanda
- Chad
- Congo Democratic Republic
- Burundi
- Angola
- Ghana
- Gabon
- Lesotho
- Cote d’Ivoire
- Togo
- Total

P Value

- <.01
- 0.37
- 0.12
- 0.06
- 0.52
- 0.74
- 0.34
- 0.34
- 0.80
- 0.40
- 0.48
- 0.63
- 0.82
- 0.94
- 0.99
- 0.04
- 0.10
- 0.15
- 0.27
- 0.22
- 0.01
- 0.01

All models control for sex, marital status, age, education (none, primary, secondary, and higher), wealth index, urban residence, and survey month. Standard errors are clustered at the enumeration area level.
eFigure 3. Country-level associations among heavy rainfall and number of sexual partners in the past 12 months, ages 15-19 years.

All models control for sex, marital status, age, education (none, primary, secondary, and higher), wealth index, urban residence, and survey month. Standard errors are clustered at the enumeration area level.

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