



Institute for Health Metrics and Evaluation

Data Release Information Sheet

Data Summary

Dataset name: Africa Under-5 Lower Respiratory Infection Incidence, Prevalence, and Mortality Geospatial Estimates 2000-2017

Date of release: September 30, 2019

Summary:

Estimates were produced for lower respiratory infection (LRI) incidence, prevalence, and mortality among children under 5 at the 5x5 km-level in 52 countries in Africa between 2000-2017. These estimates were produced using data extracted from 191 household surveys that had questions about the prevalence of cough with difficulty breathing among children under 5, and allowed for subnational geolocation. The surveys include the Demographic and Health Survey (DHS), Multiple Indicator Cluster Survey (MICS), World Bank, and other country-specific surveys. Collectively, they provided 56,628 total data points, corresponding to 53,592 survey clusters and 3,036 subnational polygon boundaries.

This dataset includes the following:

- GeoTIFF raster files for pixel-level estimates the following: LRI incidence, prevalence, and mortality
- CSV files of aggregated estimates for each country at the zero, first, and second administrative divisions
- Code files used to generate the estimates

Relevant publications and visualizations:

- Reiner RC, Welgan CA, Casey DC, Troeger CE, Baumann MM, Nguyen QP, et al. Identifying residual hot-spots and mapping lower respiratory infection morbidity and mortality in African children from 2000 to 2017. *Nature Microbiology*. 30 September 2019.
- [Local Burden of Disease - Lower Respiratory Infections \(LRI\)](#)

Acknowledgements

Contributing organizations:

- Institute for Health Metrics and Evaluation (IHME)

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- Bill and Melinda Gates Foundation (BMGF)

Suggested Citation:

Institute for Health Metrics and Evaluation (IHME). Africa Under-5 Lower Respiratory Infection Incidence, Prevalence, and Mortality Geospatial Estimates 2000-2017. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2019.

Data Files Information

CSV Files of Aggregated Estimates of Incidence, Prevalence, and Mortality

Stored in files named <MEASURE>_<METRIC>_<LEVEL_OF_AGGREGATION>.CSV

(Example: IHME_AFRICA_LRI_2000_2017_INC_PROB_ADMIN_2_Y2019M09D30.CSV)

- **Measure:** incidence, prevalence, mortality
- **Metric:** counts, rate, probability, annualized rate of change (AROC)
- **Level of aggregation:** admin0, admin1, or admin2, corresponding to first and second administrative level areas as defined in the Database of Global Administrative Areas (GADM) shapefiles, with adjustments made in some countries. Each row in each table is unique by administrative unit and year

Variable	Variable Label	Variable Definition
ADM0_CODE	GADM Admin 0 Code	GADM code identifying the administrative unit
ADM0_NAME	Admin 0 Name	Zero level administrative unit (Country) name as found in the GADM shapefile
ADM1_CODE	GADM Admin 1 Code	GADM code identifying the administrative unit (Only in the admin1 files)
ADM1_NAME	Admin 1 Name	First level administrative unit name as found in the GADM shapefile
ADM2_CODE	GADM Admin 2 Code	GADM code identifying the administrative unit (Only in the admin2 files)
ADM2_NAME	Admin 2 Name	Second level administrative unit name as found in the GADM shapefile (Only in the admin2 files)
year	Year	Time period of estimate. Possible values: years in the range 2000-2017
age_group_id	Age Group ID	Unique numeric identifier for the age group generated and stored in an IHME database of data dimensions. Possible values: 1
age_group_name	Age Group Name	Age group estimated. Possible values: Under 5,

Variable	Variable Label	Variable Definition
measure	Measure	The measure (indicator) estimated. Possible values: <ul style="list-style-type: none"> • Incidence • Prevalence • Mortality
metric	Metric	Metric/unit of measure for the estimate. Possible values: <ul style="list-style-type: none"> • Counts: Number of new cases • Rate: Number of new cases per population • Probability: Probability that the unit will reach GAPPD goals by the given year • AROC: Annualized Rate of Change
mean	Mean	Mean posterior population-weighted estimate for the administrative unit
lower	Lower Confidence Interval	2.5% population-weighted posterior quantile estimate for the administrative unit
upper	Upper Confidence Interval	97.5% population-weighted posterior quantile estimate for the administrative unit

Codebooks

Variable names, labels, and value encoding for admin 0 files can be found in the machine-actionable codebook file [IHME_AFRICA_LRI_2000_2017_CODEBOOK_ADMIN_0_Y2019M09D30.CSV](#)

Variable names, labels, and value encoding for admin 1 files can be found in the machine-actionable codebook file [IHME_AFRICA_LRI_2000_2017_CODEBOOK_ADMIN_1_Y2019M09D30.CSV](#)

Variable names, labels, and value encoding for admin 2 files can be found in the machine-actionable codebook file [IHME_AFRICA_LRI_CODEBOOK_ADMIN_2_Y2019M09D30.CSV](#)

GeoTIFF Raster Files for Pixel-level Estimates of Incidence, Prevalence, and Mortality

Stored in files named <MEASURE>_<METRIC>_<STAT>_<YEAR>.TIF

(Example: IHME_AFRICA_LRI_2000_2017_MORT_AROC_MEAN_Y2019M09D30.TIF)

- **Measure:** incidence, prevalence, mortality
- **Metric:** counts, rate, probability, annualized rate of change (AROC)
- **Stat:** mean, upper, or lower summary statistics from the predictive posterior distribution at each pixel. Lower and upper correspond to 2.5% and 97.5% quantiles

Note that rasters mask (i.e., have NA values) for lakes and areas with low population (10 people per 1km and classified as barren/sparsely vegetated). Rasters are stacked, with a layer for each year from 2000-2017. The first layer corresponds to 2000, the 18th layer corresponds to 2017.

Data Input Sources

This CSV file contains relevant metadata about the input sources as suggested in the [Guidelines for Accurate and Transparent Health Estimates Reporting \(GATHER\)](#), a statement that promotes best practices in reporting health estimates.

- [IHME_AFRICA_LRI_2000_2017_DATA_INPUT_SOURCES_Y2019M09D30.CSV](#)

Additional Information

Terms and Conditions

<http://www.healthdata.org/about/terms-and-conditions>

Contact information

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These files may be updated periodically, so we appreciate hearing feedback or additional information about how these data are being used.