

WHO methods and data sources for life tables 2000-2023

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Estimates and analysis are available at:

<https://www.who.int/data/global-health-estimates>

<http://www.who.int/gho>

For further information about the estimates and methods, please contact healthstat@who.int



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ABBREVIATIONS

DHS	USAID-supported Demographic and Health Surveys
GHE2015	WHO Global Health Estimates 2015
GHE2016	WHO Global Health Estimates 2016
GHE2019	WHO Global Health Estimates 2019
GHE2021	WHO Global Health Estimates 2021
ICD	International Classification of Diseases
IHME	Institute for Health Metrics and Evaluation
IMR	Infant mortality rate
MICS	UNICEF Multiple Indicator Cluster Surveys
m_x	age-specific death rates calculated from information on deaths among persons in the age group commencing at age x during a given time period and the total person-years for the population in the same age group during the same time period. For WHO abridged life tables, all age groups from 5 onwards are 5-year age groups, m_0 refers to infants aged 0 (first 12 months of life) and m_1 refers to children aged 1 to 4 (ie. between exact ages 1 and 5).
NMR	Neonatal mortality rate
${}_nq_x$	probability of dying between exact ages x and $x+n$.
U5MR	Under-5 mortality rate
UN-IGME	Inter-agency Group for Child Mortality Estimation
UNPD	UN Population Division
VR	Vital registration
WHO	World Health Organization
WHS	2002 to 2003 WHO World Health Survey program
WPP2024	World Population Prospects 2024

1 Introduction

The World Health Organization (WHO) began producing annual life tables for all Member States in 1999. These life tables are a basic input to all WHO estimates of global, regional and country-level patterns and trends in all-cause and cause-specific mortality. Since 1998, WHO has been producing annual abridged life tables for Member States as part of its mandate to monitor and report on global progress in improving health. During the MDG era, WHO has been estimating time series of life tables from 1990 onwards. To support its reporting on progress towards the 2030 Agenda for Sustainable Development, WHO has released updated annual life tables for Member States for the period 2000-2023. These are available in the WHO Global Health Observatory¹ and in World Health Statistics Reports²⁻⁵. These updated life tables also provide the all-cause mortality estimates for the WHO Global Health Estimates 2023 (GHE2023) released in 2026.⁵

For almost all WHO Member States, this current update draws on the population estimates from the 2024 revision of World Population Prospects⁶ (WPP2024) prepared by the UN Population Division (UNPD), death registration data reported to WHO by Member States⁷, as well as on infant and child mortality rates under 15 years of age that have been developed and agreed upon by the Inter-agency Group for Child Mortality Estimation (UN-IGME) which is made up of WHO, UNICEF, UNPD, World Bank and academic groups⁸, UNAIDS/WHO estimates of HIV mortality for countries with high HIV prevalence⁹, and mortality estimates from the Global Burden of Disease 2023 (GBD2023) study.¹⁰

Consultations with Member States were carried out for life table mortality rates and life expectancies in March-April 2026.

2 General approach for preparation of annual life tables

For this update, the objective was to publish WHO annual period life tables for years 2000-2023. The starting point for the preparation of WHO annual life tables was to generate estimates for mortality rates m_x from country-specific data sources as listed in Annex Table A for each age-sex-country time series. A persisting challenge for this kind of effort is that not all WHO Member States have complete Vital Registration (VR) systems recording all deaths occurring in a certain calendar year with detailed information on age and sex of the deceased. And where such systems do exist, the completeness and quality of data vary across Member States. Consequently, various types of data and methods were applied for the estimation of life tables for different Member States.

We defined two groups of Member States, non-Member territories, and areas for which data inputs and estimation methods differed. The corresponding groups are:

VR countries	91 countries, territories, and areas for which the WHO Mortality Database held mortality data from vital registration (VR) systems for 75% or more of years since 1990 and have average completeness that is at least 80%. Completeness-adjusted VR was used as input to the empirical life table database, and strongly informs predicted lifetables from the model life table system for the same countries.
Non-VR countries	The remaining countries, territories and areas where the most up-to-date estimates of child mortality from UN-IGME and adult mortality from GBD2021 are used as input to a model life table system to construct annual life tables.

A full list of countries in each category is provided in Annex Table A.

3 Preparation of the Empirical Life Table (ELT) database

WHO holds time series of death registration data from as early as the 1950s for over 120 countries and areas.⁷ These are used to the greatest extent possible in the preparation of annual life tables. For 98 countries with at least 75% of the years between 1990-2023 with VR available, we evaluated the completeness of the all-cause vital registration deaths data. 91 of these countries had at least 80% average completeness, from which adjusted mortality rates were calculated and added to the empirical life table database. In this section we describe the assessment of under- 5 VR completeness, assessment of adult VR completeness with DDM methods, and the construction of the empirical life table database.

3.1 Updated assessments of VR completeness

Completeness for child deaths under age 15 years was assessed by comparison with UN-IGME estimates of child mortality.⁸ When VR data were not available for all years for the period of interest in a country, a full time series of estimates for child completeness are interpolated and/or extrapolated. We used a Loess regression with a bandwidth 0.8 for the interpolation process. For extrapolation, the estimates of child completeness are held constant before the first and after the last observation instead of using the Loess regression. As the estimates for child mortality for ages under 15 years were derived from either 1) VR data that are considered to be complete and therefore requires no completeness-based adjustments, and 2) the direct use of IGME estimates for those age groups, the evaluation of completeness for child deaths is only used for the assessment of VR completeness for the older age groups but not for adjusting VR data for GHE's estimation of child mortality.

Completeness of death registration for ages 15 years and over was assessed using the death distribution methods (DDMs) as well as the estimated completeness under-5 VR data. In essence, DDMs assess VR

completeness by comparing the age distribution of the population between two censuses with the age distribution of deaths between those same censuses. Census and population registry counts were compiled from the GBD2023 study and the UN Demographic Year Book. Population counts from adjacent censuses were paired with vital registration death counts in the intervening years. DDM methods were then used to evaluate average adult completeness during each time period.

The three DDMs most widely used in demography are adopted in our assessment for adult VR completeness, including generalized growth balance (GGB), synthetic extinct generation (SEG), and a hybrid approach (GGBSEG) of the two.^{11–14} To fill in gaps and produce a complete time series of adult completeness, a regression analysis was then performed to use completeness estimates for children to predict that for adults using the formula below:

$$\log(\text{Adult completeness}) = \hat{\beta}_0 + \hat{\beta}_1 * \log(\text{Child completeness})$$

The residuals from this regression were then smoothed using a spatiotemporal model to leverage the available data from the entire time series and geographic locations, and subsequently brought back to the regression equation for calculating the final estimated completeness.^{14,15} The final completeness estimates were capped at 100% for those where the estimated values were greater than 100%. Those with estimated completeness between 95% and 100% were considered complete with the final values set at 100%. Accordingly, the estimated completeness with values between 90% and 95% were rescaled to the range of 90–100% using the formula below.

$$\text{scaled completeness} = 2 * \text{estimated completeness} - 0.9$$

Annex Table B lists estimated completeness for the most recent year of death registration data for each Member State meeting inclusion criteria.

There are five countries where registered deaths reported to WHO do not include a province or territory not under government control. These are:

Cyprus:	all data refer to government controlled areas
Georgia:	excluding Abkhazia and South Osetia
Moldova:	excluding Transnistria and Bender
Russia:	1993–2003 data exclude Chechnya
Serbia:	excluding Kosovo-Metohija province

Singapore does not report deaths for non-citizen residents, who represent approximately 30% of the de-facto population. For Mauritius, the deaths reported to WHO include all of Mauritius except for the island of Rodrigues.

Once the VR completeness for adult deaths were estimated, age and sex specific mortality rates for each country-year were calculated simply by dividing the observed mortality rates by the estimated completeness.

3.2 Preparation of the Empirical Life Table (ELT) database

VR group countries, with vital registration data for 75% or more of years since 1990 and average completeness that is at least 80%, are used as input to the ELT database that informs age patterns of mortality in both VR and non-VR countries.

Age-specific mortality rates ($m_{c,t,a,s}$) for each country (c), year (t), sex (s), and age group (a), are calculated using observed VR death counts ($D_{c,t,a,s}$) and population counts ($N_{c,t,a,s}$).

$$m_{c,t,a,s} = \frac{D_{c,t,a,s}}{N_{c,t,a,s}}$$

In most countries, population exposure estimates from the 2024 Revision of World Population Prospects (WPP) are used in calculating mortality rates. Population exposure estimates from the Human Mortality Database (HMD) are used for 25 countries with complete overlap in temporal availability of vital registration data.¹⁶ In Cyprus, Israel, Republic of Korea, and Singapore, population estimates included in the WHO Mortality Database are used to better align with the population coverage of the available vital registration data. All population exposure estimates were aggregated to match the age-group detail originally available in the vital registration deaths data.

We calculate completeness-adjusted mortality rates ($m_{c,t,a,s}^{adj}$) using the previously estimated completeness estimates ($\phi_{c,t,a,s}$).

$$m_{c,t,a,s}^{adj} = \frac{D_{c,t,a,s}}{(\phi_{c,t,a,s} \cdot N_{c,t,a,s})}$$

The previously described child ($\phi_{c,t,s}^{child}$) and adult completeness ($\phi_{c,t,s}^{adult}$) estimates are used for under age 5 and 15+ respectively. Age groups 5-9 and 10-14 use a linear combination of both child and adult completeness.

$$\phi_{\{c,t,s,a\}} = \begin{cases} \phi_{c,t,s}^{child} & a \in \{0, 1-4\} \\ \frac{2}{3}\phi_{c,t,s}^{child} + \frac{1}{3}\phi_{c,t,s}^{adult} & a = 5-9 \\ \frac{1}{3}\phi_{c,t,s}^{child} + \frac{2}{3}\phi_{c,t,s}^{adult} & a = 10-14 \\ \phi_{c,t,s}^{adult} & a \in \{15-19, \dots, 95+\} \end{cases}$$

In many VR countries the completeness-adjusted mortality rates ($m_{c,t,a,s}^{adj}$) can be used as is to calculate life tables. But in countries with smaller population sizes and lower mortality risk (especially lower mortality risk age groups like adolescents), the age pattern of mortality can be very noisy and include zero deaths and zero mx. To account for this random variability, we calculate smoothed completeness-adjusted mortality rates ($m_{c,t,a,s}^{adj(w)}$) for $t \pm w$, where w is the number of adjacent years to include.

$$m_{c,t,a,s}^{\text{adj}(w)} = \frac{\sum_{\tau \in \mathcal{W}(t,w)} D_{c,\tau,a,s}}{\sum_{\tau \in \mathcal{W}(t,w)} (\phi_{c,\tau,a,s} \cdot N_{c,\tau,a,s})}$$

where $\mathcal{W}(t, w) = \{t - w, \dots, t, \dots, t + w\}$ for $w \in \{0, 1, 2, 3\}$.

For example, in country x in year 2005, smoothing width 0 would only include deaths and population in year 2005, but smoothing width 2 would include all deaths and population in years 2003, 2004, 2005, 2006 and 2007.

With the smoothed completeness-adjusted mortality rates ($m_{c,t,a,s}^{\text{adj}(w)}$), corresponding life table parameters ax (the average person-years living in the age group for those that die in the interval) and qx (the probability of death within the age group) were calculated using standard demographic conversions. Finally, MLT requires the life table database to have consistent abridged age groups 0, 1-4, 5-9, ..., 95+ across all country-year-sex combinations. To split larger age groups (like 10-year age groups) into the smaller required age groups, interpolation of the lx life table parameter was used. lx represents the number of people alive in the hypothetical cohort at the beginning of the age group x . To extend life tables from lower terminal age groups (like 80+, 85+) to the required 95+, the Kannisto law of mortality was fit to $m_{c,t,a,s}^{\text{adj}(w)}$ estimates above age 60.¹⁷

The final step in preparing the life table database for the model life table system was to assign each life table to be part of the universal, country-specific, or outlier categories, and pick smoothing widths. In general, universal empirical life tables can be used in the MLT system to inform the age pattern of mortality in all countries, these are deemed to be the highest quality and standard age patterns. The empirical life tables included in the country specific group are only used in the MLT system to inform the age pattern of mortality in the same country.

Specific country-year ELTs were excluded from the database if a large mortality shock occurred in the year. A “large” mortality shock was defined as an all-age shock mortality rate of over 0.1 deaths per 1,000 person-years, or a shock death rate in males age 20-24 over 1 death per 1,000 person-years. Other occasional reasons for exclusion included old age misreporting, age heaping, inconsistent age patterns compared to other years in the same country, or other implausible estimates.

4 Infant and child mortality

Mortality rates for infants and age group 1-4 years for the WHO life tables were derived from the UN-IGME estimates of infant mortality rates (IMR) and under 5 mortality rates (U5MR) by sex, as well as for Member States for years 2000-2023.⁸ For age groups 5-9 and 10-14 years, mortality rates were derived from UN-IGME estimates of the probability of dying between ages 5 and 10 years (5q5) and between 5 and 14 (10q5) years per 1,000 child aged 5 years. UN-IGME annually assesses and adjusts all available surveys, censuses and vital registration data, to estimate country-specific trends in mortality rates for neonates, infants, children 1-4 years and 5-14 years of age. All data sources and estimates are documented on the website www.childmortality.org. For countries with complete recording of child deaths in death registration systems, these are used as the source of data for the estimation of trends in

neonatal, infant and child mortality. For countries with incomplete death registration, all other available census and survey data sources, which meet quality criteria, are used.

5. Estimation of annual life tables with the Model Life Table (MLT) System

5.1 Model Life Table (MLT) system

We use a relational model life table (MLT) system to estimate age-specific mortality for all GHE countries in 2000-2023, including both VR and non-VR group countries. The MLT system both matches high-quality VR where available, and in countries without VR, leverages observed patterns of mortality matched with summary mortality indices to estimate a plausible age pattern.

The basic idea of a relational MLT system is to take as input a standard/reference life table and one or more entry parameters and then predict a new life table as a mathematical transformation of the standard life table. For GHE, the standard/reference life tables are derived from the empirical life table database described in the previous section. Typically, the entry parameters are summary mortality indices like 5q0 (probability of death before age 5) and 45q15 (probability of death before age 60 conditional on survival to age 15). These entry parameters can typically be measured even without vital registration systems using other sources of mortality data.

For GHE, UN-IGME 5q0 estimates were used as one of two target entry parameters. UN-IGME annually assesses and adjusts all available surveys, censuses and vital registration data, to estimate country-specific trends in mortality rates for neonates, infants, children 1-4 years and 5-14 years of age. All data sources and estimates are documented on the website www.childmortality.org. For countries with complete recording of child deaths in death registration systems, these are used as the source of data for the estimation of trends in neonatal, infant and child mortality. For countries with incomplete death registration, all other available census and survey data sources, which meet quality criteria, are used.

The other entry parameter used for GHE was 45q15. For the non-VR countries, the input data for 45q15 draw on a wide range of data sources including available death registration data such as the Disease Surveillance Points (DSP) in China^{18,19} and the Sample Registration System (SRS) in India^{20,21}, census, nationally representative household surveys, and sibling survival history data. In VR countries, 45q15 estimates calculated from the smoothed and completeness adjusted ELTs were used. In countries with gaps in VR availability, the GBD2021 time trends were used to extend the ELT 45q15 trends. This was done by calculating the ratio of ELT 45q15 to GBD2021 45q15 where there is overlap, interpolating the ratio and using constant extrapolation of the ratio outside the available boundaries. For both 5q0 and 45q15 we used estimates with the effects of mortality shocks (wars, natural disasters, epidemics, etc.) and excess mortality from the COVID-19 pandemic removed.

GHE used an extension of the modified logit life table system first proposed by Wang et al.^{14,15} In this extension, for each country-year differences in logit 5q0 and logit 45q15 between a standard life table and the target 5q0 and 45q15 are used to predict the logit age-specific q_x for all age groups.

The modified logit life table system was fit with all available ELTs matched with other ELTs within 15 years. Each abridged age group x to $x + n$ and sex we fit separately with the following model:

$$\text{logit}(nqx) = \text{logit}(n\tilde{q}x) + \beta_{5q0}(\text{logit}(5q0) - \text{logit}(5\tilde{q}0)) + \beta_{45q15}(\text{logit}(45q15) - \text{logit}(45\tilde{q}15))$$

where $n\tilde{q}x$, $5\tilde{q}0$, and $45\tilde{q}15$ are from the standard life table, while nqx , $5q0$, and $45q15$ are from the target life table. β_{5q0} is zero for ages 35-39 and above, and β_{45q15} is zero for ages less than or equal to 10-14.

With the relational model fit, we can then use target 5q0 and 45q15 estimates to predict life tables for all GHE locations. Because of the unique age pattern of mortality due to HIV and the preponderance of low HIV mortality burden countries in the ELT database, we fit the MLT model with targets and standard lifetables with HIV mortality “removed”. The effects of HIV, COVID-19 excess mortality and shocks are then added back on.

We produced initial life tables for each country-year-sex without HIV/AIDS mortality using the following steps for each country:

1. Compiled the target 5q0 and 45q15 from 2000 to 2023. These targets already had the effects of mortality shocks and excess mortality from the COVID-19 pandemic removed but still included HIV (targets with-HIV).
2. Removed UNAIDS HIV mortality from 5q0 and 45q15 to get HIV-free, no shocks, no excess COVID-19 mortality targets (targets without-HIV).
3. In preparation for matching to the ELT database, we subset the ELT database to “universal” designated ELTs, and “country specific” ELTs if available.
4. Each of the subset ELTs from the previous step were ranked by the sum of male and female Mahalanobis distance from the target 5q0 and 45q15 for each year. The 100 ELTs for each year with the smallest distance were kept to incorporate into the standard life table for each year.
5. The standard life table for each year was calculated from the matched ELTs based on a weighting scheme that gave the highest weights to ELTs in the same country and closest in time.
6. Used the estimated relational model parameters to adjust the standard life table for each year and sex.

These initial life tables without the effects of HIV/AIDS mortality were then used to create life tables with the effects of HIV/AIDS mortality that are consistent with UNAIDS estimates.

7. Used iterative adjustment to collapse remaining distance between the life table and the target 5q0 and 45q15 without-HIV. This resulted in a preliminary life table without-HIV (and without-COVID-19 and without-shocks) for each country-year-sex.
8. Used iterative adjustment to collapse remaining distance between the life table and the target 5q0 and 45q15 with-HIV. This resulted in a preliminary life table with-HIV (and without-COVID-19 and without-shocks) for each country-year-sex. This step also used UNAIDS estimated relative risk of HIV/AIDS between age groups.

9. UN-IGME estimated 'no shock' 1q0 and 4q1 were merged back on to the life table with-HIV to ensure consistency. Then the life table without-HIV was recalculated using exact UNAIDS HIV/AIDS specific mortality rates.

Finally, the excess mortality due to the COVID-19 pandemic and additional shock mortality effects were added on to the life tables.

10. Life tables for the COVID-19 pandemic years (2020-2023) were calculated differently based on whether ELTs were available for the country-year.
 - a. In country-years without available ELTs during the COVID-19 pandemic, WHO covid excess mortality rates were added on to the with-HIV life tables to get with-HIV & with-COVID life tables.
 - b. In country years with available ELTs during the pandemic, the ELTs were used as the final with-HIV with-COVID life tables and the with-HIV & without-COVID, and the without-HIV & without-COVID life tables were re-calculated from the UNAIDS HIV/AIDS mortality rates and WHO COVID excess mortality rates.
11. As a final step, GBD2023 age-sex specific shock mortality rates were added on to the with-HIV & with-COVID life tables to get the final all-cause life tables with-HIV & with-COVID & with-shocks.

With life tables for abridged age groups available for all country-year-sex combinations, death count estimates for all country-year-sex-age combinations were calculated using the predicted mortality rate and WPP2024 population exposure estimates.

5.2 Quantification of uncertainty

Monte Carlo simulation is applied to generate 1000 random draws of the age-specific mortality estimates from the Model Life Table System. The 2.5 and 97.5 quantiles are used respectively as the lower and upper 95% uncertainty bounds.

6 Data sources and methods for mortality shocks

Conflict and natural disasters (mortality shocks) may cause substantial increases in death rates for specific country-years. These may or may not be reflected in available death registration or survey/census data. Accordingly, the current update of WHO life tables draw on estimates of these deaths by country, year, age and sex from GBD2023¹⁰ as part of its overall cause of death analyses to replace the likely under-reported deaths from these causes in the VR data.²² Data and methods used for updating annual mortality shock estimates by country, age, sex and year for the period 2000-2023 are described below.

6.1 Natural disasters

Estimated deaths for major natural disasters were obtained from estimates of GBD2023 which are based on information including the EM-DAT/CRED International Disaster Database.²³ These data were used to supplement the VR data as described in the previous WHO Life Tables Technical Paper.²⁴

6.2 Conflict deaths

Similar to natural disasters, we used GBD2023 data for deaths due to conflicts, terrorism and legal interventions, which were primarily estimated using data from the Uppsala Conflict Data Program (UCDP), International Institute for Strategic Studies (IISS), Armed Conflict Location & Event Data Project (ACLED), Global Terrorism Database (GTD), supplemented by vital registration systems and other relevant data sources.^{25–28} Deaths were assigned for each event according to the source's cause coding and any description from available notes. When the deaths due to a certain event are reported across multiple locations and estimates by side were not provided, deaths were split between the population from both locations.

These estimates relate to deaths for which the underlying cause (following ICD conventions) was an injury due to war, civil insurrection or organized conflict, whether or not that injury occurred during the time of war or after cessation of hostilities. The estimates include injury deaths resulting from all organized conflicts, including organized terrorist groups, whether or not a national government was involved. They do not include deaths from other causes (such as starvation, infectious disease epidemics, lack of medical intervention for chronic diseases), which may be counterfactually attributable to war or civil conflict.

7 WHO estimates of life expectancy and healthy life expectancy

7.1 Life expectancy

Final estimates of age-sex-specific mortality rates for years 2000-2023 were used to compute abridged life tables for 186 WHO Member States, territories and areas with population of 90,000 or greater in 2023. Life expectancies at birth are reported in World Health Statistics 2026 and full life tables are available in the WHO Global Health Observatory (www.who.int/gho).^{1,29}

WHO applies standard methods to the analysis of Member State data to ensure comparability of estimates across countries. This will inevitably result in differences for some Member States with official estimates for quantities such as life expectancy, where a variety of different projection methods and other methods are used. These WHO estimates of mortality and life expectancies should not be regarded as the nationally endorsed statistics of Member States, which may have been derived using alternative methodologies and assumptions.

7.2 Healthy life expectancy

Previous WHO estimates for healthy life expectancy (HLE or HALE) for Member States have also been updated., using the updated WHO life tables and WHO YLD estimates based largely on YLD estimates from GBD2021,³⁰ with similar adjustments to disability weights and prevalence for certain causes as previously.³¹

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Annex Table A: Data sources and methods for WHO Life Tables

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
AFG	Afghanistan	Afghanistan Health Survey 2006 Afghanistan Demographic and Health Survey 2015-2016 Afghanistan National Risk and Vulnerability Assessment 2007-2008, 2011-2012 Afghanistan Multiple Indicator Cluster Survey 2003, 2010-2011 Afghanistan Multiple Indicator Cluster Survey 2022-2023	Model life table systems	
ALB	Albania	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	Model life table systems	1980, 1984-2015, 2021
DZA	Algeria	Algeria Maternal and Child Health Survey 1992 Algeria Family Health Survey 2002-2003 Algeria Multiple Indicator Cluster Survey 1995, 2000, 2012-2013 Algeria Vital Statistics - Deaths 1990, 2000, 2007-2010 Algeria Demography 2011, 2017, 2018, 2019, 2020, 2020-2023 United Nations Demographic Yearbook 2000-2016 Algeria Multiple Indicator Cluster Survey 2018-2019	Model life table systems	1980-1982, 1985-1986, 1998, 2000, 2010-2020, 2023
AGO	Angola	Angola Multiple Indicator Cluster Survey 2001 Angola Malaria Indicator Survey 2006-2007, 2011 Angola Demographic and Health Survey 2015-2016 Angola Demographic and Health Survey 2023-2024	Model life table systems	
ATG	Antigua and Barbuda	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	Model life table systems	1961-1964, 1966, 1969-1978, 1983-2021
ARG	Argentina	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1966-1970, 1977-2023
ARM	Armenia	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1981-2024
AUS	Australia	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1950-2024
AUT	Austria	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1955-2024
AZE	Azerbaijan	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1981-2023
BHS	Bahamas	Bahamas Vital Statistics Report 2017 United Nations Demographic Yearbook WHO Mortality Database	Model life table systems	1969, 1971-1972, 1974-1977, 1979-2020

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
BHR	Bahrain	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	Model life table systems	1980-2014, 2016-2017, 2019-2023
BGD	Bangladesh	Bangladesh Special Demographic and Health Survey 2001 Bangladesh Demographic and Health Survey 1993-1994, 1996-1997, 1999-2000, 2004, 2007, 2011-2012, 2014, 2017-2018 Bangladesh Demographic and Health Survey 2022 Bangladesh Multiple Indicator Cluster Survey 2012-2013, 2019 Bangladesh Population and Housing Census 2011 Bangladesh Sample Vital Registration System 2003, 2010, 2012, 2013, 2014	Model life table systems	1980-1982, 1984-1986, 2023
BRB	Barbados	WHO Mortality Database Country Mortality Data 1980-1999	Model life table systems	1955-2013
BLR	Belarus	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	Model life table systems	1981-2015, 2018
BEL	Belgium	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1954-2022
BLZ	Belize	Belize Family Health Survey 1991, 1999 WHO Mortality Database United Nations Demographic Yearbook 2009-2010, 2015-2016 Belize Multiple Indicator Cluster Survey 2006, 2011, 2015-2016 Belize Vital Registration - Deaths 2015 ICD10	Model life table systems	1964-2023
BEN	Benin	Benin Demographic and Health Survey 1996, 2001, 2006 Benin Demographic and Health Survey 2011-2012 Benin Multiple Indicator Cluster Survey 2014 Benin Multiple Indicator Cluster Survey 2021-2022	Model life table systems	
BTN	Bhutan	United Nations Demographic Yearbook 2006 Bhutan Multiple Indicator Cluster Survey 2010 Bhutan Population and Housing Census 2005 Bhutan Health Survey 1994 Bhutan Vital Statistics Report 2023	Model life table systems	
BOL	Bolivia (Plurinational State of)	Bolivia Demographic and Health Survey 2003-2004, 2008, 2016 Bolivia Household Survey 2000 Bolivia Household Survey 2021 Bolivia Multiple Indicator Cluster Survey 2000 Bolivia National Census of Population and Housing 2001 - IPUMS United Nations Demographic Yearbook 1991 WHO Mortality Database	Model life table systems	2000-2003
BIH	Bosnia and Herzegovina	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1985-1991, 1998-2011, 2014-2024

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
BWA	Botswana	Botswana Multiple Indicator Cluster Survey 2000 Botswana Family Health Survey 1996, 2007-2008 Botswana Population and Housing Census 1981 Botswana Demographic Survey 2006 United Nations Demographic Yearbook 2013 Botswana Population and Housing Census 2011 Botswana Vital Statistics Report 2001, 2013, 2014, 2015, 2017	Model life table systems	1995, 2011, 2014, 2016, 2017, 2020, 2021
BRA	Brazil	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1977-2023
BRN	Brunei Darussalam	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1982-2024
BGR	Bulgaria	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1964-2023
BFA	Burkina Faso	Burkina Faso Demographic and Health Survey 1992-1993, 1998-1999, 2003 Burkina Faso Demographic and Health Survey 2021 Burkina Faso Multiple Indicator Cluster Survey 2006 Burkina Faso Population and Housing Census 2006 Burkina Faso Demographic and Health Survey 2010-2011 Burkina Faso Malaria Indicator Survey 2014	Model life table systems	
BDI	Burundi	Burundi Multiple Indicator Cluster Survey 2000 Burundi Multiple Indicator Cluster Survey 2005 Burundi Demographic and Health Survey 2010-2011 Burundi Malaria Indicator Survey 2012-2013 Burundi Demographic and Health Survey 2016-2017 Burundi Population and Housing Census 2008-2009	Model life table systems	
CPV	Cabo Verde	United Nations Demographic Yearbook Cape Verde Reproductive Health Survey 1998 WHO Mortality Database Cape Verde Population and Housing Census 2000 Cape Verde Demographic and Health Survey 2005 Cape Verde Demographic and Reproductive Health Survey 2018	Model life table systems	1980, 1983-1985, 1990-1991, 1998, 2000, 2007, 2011-2012
KHM	Cambodia	Cambodia Special Demographic and Health Survey 1998 Cambodia Intercensal Population Survey 2004 Cambodia Socio-Economic Survey 1997, 1999, 2003-2005 Cambodia Demographic and Health Survey 2000, 2005-2006, 2010-2011, 2014, 2021-2022 Cambodia General Population Census 2004 - IPUMS Cambodia General Population Census 2008 - IPUMS Cambodia General Population Census 2013 - IPUMS	Model life table systems	

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
CMR	Cameroon	Cameroon Demographic and Health Survey 1991, 1998, 2004 Cameroon Multiple Indicator Cluster Survey 2000, 2014 Cameroon Population and Housing Census 2005 Cameroon Demographic and Health Survey 2011, 2018-2019	Model life table systems	1987
CAN	Canada	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1950-2024
CAF	Central African Republic	Central African Republic Multiple Indicator Cluster Survey 2000, 2006, 2010-2011, 2018-2019	Model life table systems	1988
TCD	Chad	Chad Demographic and Health Survey 1996-1997 Chad Multiple Indicator Cluster Survey 2000, 2010, 2019 Chad Demographic and Health Survey 2004,2014-2015	Model life table systems	
CHL	Chile	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1954-2023
CHN	China	United Nations Demographic Yearbook China Census of Population 2000 WHO Mortality Database China Population and Housing Census 2010 China Disease Surveillance Points 1991-2007- China CDC China - Henan Maternal and Child Health Surveillance System Under-5 Mortality Rate 1991-1996 China Mortality Registration and Reporting System, China CDC 2008-2015 China Intercensal Population Sample Survey of One-Percent 1995 China National Maternal and Child Health Surveillance System Child Mortality Data By Cause 1996-2012 – MCHS China National Maternal and Child Health Surveillance System Provincial Child Mortality 2000-2012, 2013-2014 - MCHS China Maternal and Child Mortality Data 1996-2012 - China CDC China National Maternal and Child Health Surveillance System Under-5 Mortality 1996-2013 - MCHS China National Maternal and Child Health Surveillance System 2009 China Statistical Yearbook 2002 China WHO Study on Global AGEing and Adult Health 2007-2010 China Disease Surveillance Points and Information System for Disease Control and Prevention Deaths 2013-2015, 2017, 2018, 2019, 2020, 2021	Model life table systems	1987-2000
COL	Colombia	Total number of deaths officially reported to vital registrations, by age and sex , extracted from the WHO Mortality Database.	VR	1953-1970, 1972, 1974-1977, 1979, 1981-2023

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
COM	Comoros	Comoros Demographic and Health Survey 1996, 2012-2013 Comoros Multiple Indicator Cluster Survey 2000 Comoros Multiple Indicator Cluster Survey 2022	Model life table systems	
COG	Congo	Congo Demographic and Health Survey 2005, 2011-2012 Congo Population and Housing Census 1984 Congo AIDS Indicator Survey 2009 Congo Multiple Indicator Cluster Survey 2014-2015	Model life table systems	
CRI	Costa Rica	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1956-2023
CIV	Côte d'Ivoire	Côte d'Ivoire Demographic and Health Survey 1994, 1998-1999, 2011-2012, 2021 Côte d'Ivoire AIDS Indicator Survey 2005 Cote d'Ivoire Multiple Indicator Cluster Survey 2016 Côte d'Ivoire General Population and Housing Census 1998, 2021	Model life table systems	1998
HRV	Croatia	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1982-2023
CUB	Cuba	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1959, 1964-1965, 1968-2023
CYP	Cyprus	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1980-2023
CZE	Czechia	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1982-2024
PRK	Democratic People's Republic of Korea	North Korea Population Census 1993 North Korea Multiple Indicator Cluster Survey 2017 North Korea Socio-Economic, Demographic and Health Survey 2014	Model life table systems	1993
COD	Democratic Republic of the Congo	Democratic Republic of the Congo Multiple Indicator Cluster Survey 2001, 2010, 2017-2018 Democratic Republic of the Congo Demographic and Health Survey 2007, 2013-2014, 2023-2024	Model life table systems	
DNK	Denmark	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1951-2022
DJI	Djibouti	Djibouti Intercensal Demographic Survey 1991 Djibouti Family Health Survey 2002, 2012 Djibouti Multiple Indicator Cluster Survey 2006	Model life table systems	1991

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
DOM	Dominican Republic	Dominican Republic Demographic and Health Survey 1991, 1996, 2002, 2007 , 2013 Dominican Republic Experimental Demographic and Health Survey 1999 Dominican Republic Special Demographic and Health Survey 2007 Dominican Republic Multiple Indicator Cluster Survey 2000, 2014 Dominican Republic Census 2002 - IPUMS Dominican Republic National Multipurpose Household Survey 2006 WHO Mortality Database Dominican Republic Census 2010 - IPUMS Dominican Republic Vital Registration - Deaths 2013 ICD10 Dominican Republic Deaths Occurred per Year, by Sex and Age Groups of the Deceased, 2001-2016 Dominican Republic Multiple Indicator Cluster Survey 2019 Dominican Republic Vital Statistics Yearbook 2022	Model life table systems	1956-1963, 1965-1992, 1994-2022
ECU	Ecuador	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1961, 1963-1975, 1977-2024
EGY	Egypt	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1954-1967, 1970-1981, 1983-2020
SLV	El Salvador	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1950-1974, 1980-2018
GNQ	Equatorial Guinea	Equatorial Guinea Multiple Indicator Cluster Survey 2000 Equatorial Guinea Demographic and Health Survey 2011	Model life table systems	
ERI	Eritrea	Eritrea Demographic and Health Survey 1995-1996, 2002 Eritrea Demographic and Health Survey 2002	Model life table systems	
EST	Estonia	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1981-2024
ETH	Ethiopia	Ethiopia Population and Housing Census 1994, 2007 Ethiopia Demographic and Health Survey 2000, 2005, 2010-2011, 2016 Ethiopia Interim Demographic and Health Survey 2019	Model life table systems	1984
FJI	Fiji	Fiji Population and Housing Census 1996, 2007 WHO Mortality Database Fiji Population and Housing Census 2007 Country Mortality Data 1980-1999 Fiji Multiple Indicator Cluster Survey 2021 Fiji Vital Statistics Report 2012-2017, 2016-2021	Model life table systems	1978, 1980-1987, 1992-2009, 2011-2012, 2019
FIN	Finland	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1952-2024
FRA	France	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1950-2023
GAB	Gabon	Gabon Demographic and Health Survey 2000-2001, 2012, 2019-2021	Model life table systems	
GMB	Gambia	Gambia Multiple Indicator Cluster Survey 2000, 2005-2006, 2010, 2018 Gambia Demographic and Health Survey 2013, 2019-2020	Model life table systems	

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
GEO	Georgia	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1981-2021, 2023-2024
DEU	Germany	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1980-2023
GHA	Ghana	Ghana Living Standards Measurement Survey 1991-1992, 1998-1999, 2005-2006 Ghana Demographic and Health Survey 1993-1994, 1998-1999, 2003, 2008, 2014 Ghana Population and Housing Census 2000 - IPUMS Ghana Special Demographic and Health Survey 2007-2008 Ghana Multiple Indicator Cluster Survey 2006, 2011, 2017-2018 Ghana District Multiple Indicator Cluster Survey 2007-2008 Ghana - Accra Multiple Indicator Cluster Survey 2010-2011 Ghana Census 2010 Ghana Performance Monitoring and Accountability 2020 Survey, Round 4 2015 Ghana Malaria Indicator Survey 2016 United Nations Demographic Yearbook Ghana Demographic and Health Survey 2022-2023	Model life table systems	
GRC	Greece	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1956-2022
GRD	Grenada	WHO Mortality Database United Nations Demographic Yearbook Grenada Vital Registration - Deaths 2016 ICD10 Grenada Vital Registration - Deaths 2019 ICD10 Grenada Vital Registration - Deaths 2020 ICD10 Grenada Vital Registration - Deaths 2021 ICD10	Model life table systems	1974-1978, 1984-2023
GTM	Guatemala	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1958-1971, 1974-1981, 1983-2023
GIN	Guinea	Guinea General Census of Population and Housing 1996 - IPUMS Guinea Demographic and Health Survey 1992, 1999, 2005, 2012, 2018 Guinea General Census of Population and Housing 1983 - IPUMS Guinea Population and Housing Census 2014 Guinea Multiple Indicator Cluster Survey 2016 United Nations Demographic Yearbook	Model life table systems	
GNB	Guinea-Bissau	Guinea-Bissau Multiple Indicator Cluster Survey 2000, 2006, 2010, 2014, 2018-2019	Model life table systems	
GUY	Guyana	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1975-1977, 1979, 1984, 1988-2020
HTI	Haiti	Haiti Demographic and Health Survey 1994-1995, 2000, 2005-2006, 2012, 2016-2017 United Nations Demographic Yearbook Haiti Mortality, Morbidity, and Utilization of Services Survey 1987 Haiti Population and Housing Census 2003 - IPUMS WHO Mortality Database Haiti Global Fund Household Survey 2008	Model life table systems	1980-1981, 1983, 1997, 1999, 2001-2004

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
HND	Honduras	Honduras Demographic and Health Survey 2005-2006, 2011-2012 WHO Mortality Database Honduras Survey of Living Conditions 2004 Honduras Population and Housing Census 2001 Honduras Multiple Indicator Cluster Survey 2019	Model life table systems	1966, 1968-1983, 1987-1990, 2008-2013
HUN	Hungary	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1955-2024
ISL	Iceland	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1951-2024
IND	India	India Demographic and Health Survey 1992-1993, 1998-1999, 2005-2006, 2015-2016, 2019-2020 India District Level Household Survey 1998-1999, 2002-2005, 2007-2008, 2012-2014 (DLHS) India Sample Registration System Age-Specific Death Rates 1970-2006 India Human Development Survey 2004-2005, 2011-2013 India SRS Compendium of Fertility and Mortality Indicators 1971-1997 India Sample Registration System Age- and Sex-Specific Death Rates 1983-1995 India Population and Housing Census 2001, 2011 India Annual Health Survey Data 2010-2013 India Medical Certification of Cause of Death State-Level Tabulations 1990-1996 India Fertility and Mortality Indicators 1991 India SRS Statistical Report 1995-2016, 2018-2020, 2021 India Medical Certification of Cause of Death Report 1997-2010 India Vital Statistics 2010-2015 Civil Registration System 2016, 2017, 2018, 2019, 2020	Model life table systems	1988-2008
IDN	Indonesia	Indonesia Population and Housing Census 1990, 2000 Indonesia Intercensal Population Survey 1995, 2005 Indonesia Demographic and Health Survey 1991, 1994, 1997, 2002-2003, 2007, 2012 Indonesia Family Life Survey 1993-1994, 1997, 2000, 2007-2008, 2014-2015 Indonesia Population Census 1990, 2000, 2010 Indonesia Special Demographic and Health Survey 2012 United Nations Demographic Yearbook	Model life table systems	
IRN	Iran (Islamic Republic of)	Iran Demographic and Health Survey 2000 Iran Population and Health Sample Survey 1974 WHO Mortality Database Iran General Census of Population and Housing 2006, 2011, 2016 United Nations Demographic Yearbook - Historical Supplement 1997 Iran Mortality and Fertility Survey 1996 Iran Vital Registration - Deaths 1996-2001 Iran Death Registration System 2001-2015 Iran Civil Registration Recorded Deaths 2011-2016 Iran Multiple Indicator Demographic and Health Survey 2010 Iran Selected Statistics of Vital Events 2020 Iran Statistical Yearbook 2017-2018, 2018-2019, 2019-2020, 2021-2022 Iran Civil Registration Recorded Deaths by Age Group, Sex, and Province 2017, 2018, 2019, 2020	Model life table systems	1974-1975, 1978-1987, 1991, 1995-1999, 2001, 2005-2008, 2013-2017

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
IRQ	Iraq	Iraq Multiple Indicator Rapid Assessment 2004 Iraq Population and Housing Census 1997 - IPUMS Iraq Child and Maternal Mortality Survey 1999 Iraq Multiple Indicator Cluster Survey 2006, 2011, 2018 Iraq Annual Statistical Report 2019, 2020, 2021, 2023 Iraq Family Health Survey 2006-2007 Iraq Infant and Child Mortality and Nutrition Survey 1991 Iraq Living Conditions Survey 2004 Mortality in Iraq Associated with the 2003-2011 Invasion and Occupation WHO Mortality Database	Model life table systems	1987-1989, 2008, 2015-2016
IRL	Ireland	Total number of deaths officially reported to vital registrations, by age and sex , extracted from the WHO Mortality Database.	VR	1950-2022
ISR	Israel	Total number of deaths officially reported to vital registrations, by age and sex , extracted from the WHO Mortality Database.	VR	1975-2023
ITA	Italy	Total number of deaths officially reported to vital registrations, by age and sex , extracted from the WHO Mortality Database.	VR	1951-2023
JAM	Jamaica	Jamaica Multiple Indicator Cluster Survey 2000, 2005 Jamaica Population Census 2001 - IPUMS WHO Mortality Database Jamaica Multiple Indicator Cluster Survey 2005 Country Mortality Data 1980-1999 Jamaica Vital Statistics Report 2007, 2008 Jamaica Vital Registration Tables 2015, 2016, 2017, 2018	Model life table systems	1960-1961, 1964-1965, 1967-1971, 1975, 1977, 1980-1991, 1996-2022
JPN	Japan	Total number of deaths officially reported to vital registrations, by age and sex , extracted from the WHO Mortality Database.	VR	1950-2023
JOR	Jordan	Jordan Demographic and Health Survey 1997, 2002, 2007, 2012, 2023 Jordan Interim Demographic and Health Survey 2009 Jordan Vital Registration - Deaths 2004-2006 WHO Mortality Database Jordan Causes of Death and Population 2013 Jordan Registered Deaths 2000-2022	Model life table systems	1959-1960, 1962-1966, 1968, 1970-1975, 1978-1979, 2003-2004, 2008-2013, 2015-2019, 2021-2023
KAZ	Kazakhstan	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1981-2022, 2024
KEN	Kenya	Kenya Welfare Monitoring Survey II 1994 Kenya Demographic and Health Survey 1993, 1998, 2003, 2008-2009, 2014, 2022 Kenya Population and Housing Census 1999, 2009 Kenya Multiple Indicator Cluster Survey 2000 Kenya Integrated Household Budget Survey 2005-2006 Kenya Malaria Indicator Survey 2007 Kenya Performance Monitoring and Accountability 2020 Survey, Round 3 2015 Kenya Malaria Indicator Survey 2015 Kenya AIDS Indicator Survey 2007	Model life table systems	2021-2023

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
KIR	Kiribati	Kiribati Population and Housing Census 2005, 2010 WHO Mortality Database Kiribati Demographic and Health Survey 2009 United Nations Demographic Yearbook 2014 Kiribati Multiple Indicator Cluster Survey 2018-2019	Model life table systems	1991-2001, 2011, 2016-2017, 2019-2023
KWT	Kuwait	Kuwait Family Health Survey 1996 WHO Mortality Database Kuwait Annual Bulletin for Vital Statistics - Births and Deaths 2015, 2020, 2021, 2022, 2023 Kuwait Annual Statistical Abstract 2013	Model life table systems	1972, 1975-1989, 1991-2019, 2022-2024
KGZ	Kyrgyzstan	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1981-2023
LAO	Lao People's Democratic Republic	United Nations Demographic Yearbook Special Census Topic, 2000 Round Laos Multiple Indicator Cluster Survey 2011-2012 Laos Reproductive Health Survey 2005	Model life table systems	1995
LVA	Latvia	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1980-2024
LBN	Lebanon	Lebanon Maternal and Child Health Survey 1996 Lebanon Family Health Survey 2004 Lebanon Multiple Indicator Cluster Survey 2000, 2009 Lebanon Registered and Reported Deaths 2004 Lebanon Vital Registration - Deaths 2009-2015 Lebanon Statistical Bulletin 2013 Lebanon Vital Registration - Deaths 2020, 2021 ICD10	Model life table systems	2017-2021, 2023
LSO	Lesotho	Lesotho Multiple Indicator Cluster Survey 2000, 2018 Lesotho Demographic and Health Survey 2004-2005, 2009-2010, 2014, 2023-2024 Lesotho Demographic Survey 2001, 2011	Model life table systems	
LBR	Liberia	Liberia Demographic and Health Survey 2006-2007, 2013, 2019-2020 Liberia Census 2008 Liberia Malaria Indicator Survey 2008-2009, 2011, 2016	Model life table systems	
LBY	Libya	Libya Maternal and Child Health Survey 1995 Libya Family Health Survey 2007 United Nations Demographic Yearbook Libya Multiple Indicator Cluster Survey 2003 Libya Vital Statistics 2006-2011	Model life table systems	1981, 2016-2017
LTU	Lithuania	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1980-2024
LUX	Luxembourg	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1955-1962, 1965-2024
MDG	Madagascar	Madagascar Demographic and Health Survey 1992, 1997, 2003-2004, 2008-2009, 2021 Madagascar Multiple Indicator Cluster Survey 2000, 2011, 2018 Madagascar Malaria Indicator Survey 1995, 2013 Madagascar - South Multiple Indicator Cluster Survey 2012 United Nations Demographic Yearbook	Model life table systems	

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
MWI	Malawi	Malawi Demographic and Health Survey 1992, 2000, 2004-2005, 2010, 2015-2016, 2024 United Nations Demographic Yearbook Malawi Population and Housing Census 1998, 2008 Malawi Diffusion and Ideational Change Project (MDICP) 1998, 2001 Malawi Multiple Indicator Cluster Survey 1995 2006, 2013-2014, 2019-2020 Malawi Malaria Indicator Survey 2012, 2014, 2017 Malawi Global Fund Household Health Coverage Survey 2007-2008 Malawi Integrated Household Panel Survey, Long-Term Panel, 2010-2016, 2010-2019	Model life table systems	1987, 1998
MYS	Malaysia	United Nations Demographic Yearbook Country Mortality Data 1980-1999 Malaysia Vital Registration - Deaths 2010, 2011, 2013 ICD10 Malaysia Vital Statistics 2019, 2021 Malaysia Demographic Statistics Quarter 1-4 2023	Model life table systems	1990-2020
MDV	Maldives	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1984-2021
MLI	Mali	Mali Demographic and Health Survey 1995-1996, 2001, 2006, 2012-2013, 2018, 2023-2024 Mali General Population and Housing Census 1998 - IPUMS United Nations Demographic Yearbook - Historical Supplement 1997 Mali Census 2009 Mali Multiple Indicator Cluster Survey 2015 Mali Malaria Indicator Survey 2015	Model life table systems	1987
MLT	Malta	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1955-2022
MRT	Mauritania	Mauritania Demographic and Health Survey 2000-2001, 2019-2020 Mauritania Multiple Indicator Cluster Survey 1996, 2007, 2011, 2015	Model life table systems	1988
MUS	Mauritius	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1957-2024
MEX	Mexico	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1955-2023
FSM	Micronesia (Federated States of)	United Nations Demographic Yearbook Federated States of Micronesia Vital Registration - Deaths 2018, 2019, 2020, 2021, 2022 ICD10	Model life table systems	2018-2022
MNG	Mongolia	United Nations Demographic Yearbook Mongolia Multiple Indicator Cluster Survey 2000, 2005, 2010, 2013, 2018 Mongolia Reproductive Health Survey 1998, 2003, 2008 WHO Mortality Database Mongolia Statistical Yearbook 2001-2005 Mongolia Vital Registration - Deaths 2017 ICD10 Mongolia Vital Registration - Deaths 2018, 2019, 2020, 2021, 2022 Mongolia Births and Deaths in Population 2023	VR	1991-2010, 2016-2024
MNE	Montenegro	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1985-2023
MAR	Morocco	Morocco Special Demographic and Health Survey 1995 Morocco Demographic and Health Survey 1992, 2003-2004 Morocco Population and Housing Census 1994, 2004 Morocco Maternal and Child Health Survey 1996-1997 United Nations Demographic Yearbook Morocco National Survey on Population and Family Health 2010-2011 Morocco Statistical Yearbook 2022	Model life table systems	1991-1998, 2000-2004, 2007-2016, 2020-2021

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
MOZ	Mozambique	Mozambique Demographic and Health Survey 1997,2003-2004, 2011, 2022-2023 Mozambique Population and Housing Census 1997, 2007 Mozambique Multiple Indicator Cluster Survey 1995, 2008-2009 Mozambique Census 2007 - IPUMS Mozambique AIDS Indicator Survey 2009 United Nations Demographic Yearbook Mozambique Countrywide Mortality Surveillance for Action Data 2018-2022	Model life table systems	
MMR	Myanmar	Myanmar Demographic and Health Survey 2015-2016 Myanmar Population and Housing Census 2014 United Nations Demographic Yearbook Myanmar Multiple Indicator Cluster Survey 2009-2010 Myanmar Statistical Yearbook 2022	Model life table systems	1977-1978, 2013-2014
NAM	Namibia	Namibia Demographic and Health Survey 1992, 2000, 2006-2007, 2013 United Nations Demographic Yearbook Namibia Population and Housing Census 2011 Namibia Mortality and Causes of Death Report 2016-2017, 2018-2021	Model life table systems	
NPL	Nepal	Nepal Demographic and Health Survey 1996, 2001, 2006, 2011, 2016-2017, 2019, 2022 Nepal Fertility, Family Planning, and Health Survey 1991-1992 United Nations Demographic Yearbook 2009-2010 Nepal National Population Census 2001 - IPUMS Nepal Multiple Indicator Cluster Survey 2014 Nepal Population and Housing Census 2021	Model life table systems	1981, 1991
NLD	Netherlands	Total number of deaths officially reported to vital registrations, by age and sex , extracted from the WHO Mortality Database.	VR	1950-2023
NZL	New Zealand	Total number of deaths officially reported to vital registrations, by age and sex , extracted from the WHO Mortality Database.	VR	1950-2020
NIC	Nicaragua	Nicaragua Socio-Demographic Survey 1985-1986 Nicaragua Living Standards Measurement Survey 1993, 2001, 2005 Nicaragua Demographic and Health Survey 1997-1998, 2001,2011-2012 Nicaragua Population and Housing Census 1995, 2005 Nicaragua Reproductive Health Survey 2006-2007 WHO Mortality Database Nicaragua Vital Registration - Deaths 2014, 2015, 2020, 2021 ICD10 Nicaragua Compendium of Vital Statistics 2016-2017, 2019-2020, 2020-2021, 2021-2022	VR	1959, 1961-1965, 1968-1969, 1973-1978, 1987-1994, 1996-2022

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
NER	Niger	Niger Demographic and Health Survey 1992, 1998, 2006, 2012 Niger Multiple Indicator Cluster Survey 1996, 2000	Model life table systems	
NGA	Nigeria	Nigeria Demographic and Health Survey 1990, 2003, 2008, 2013, 2023-2024 Nigeria Multiple Indicator Cluster Survey 1999, 2007, 2011 Nigeria Living Standards Survey 2003-2004, 2008-2010 Nigeria General Household Survey 2007, 2008, 2009, 2010-2011 Nigeria Malaria Indicator Survey 2010, 2015 Nigeria Multiple Indicator Cluster Survey with National Immunization Coverage Survey Supplement 2016-2017 Nigeria Multiple Indicator Cluster Survey and National Immunization Coverage Survey 2021 Nigeria Report of Livebirths, Deaths and Stillbirths 1994-2007 Nigeria General Household Survey, Panel 2012-2013, Wave 2 Nigeria General Household Survey Panel 2015-2016 Wave 3	Model life table systems	
MKD	North Macedonia	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1982-2013, 2015-2024
NOR	Norway	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1951-2024
PSE	occupied Palestinian territory, including east Jerusalem	Palestine - West Bank and Gaza Strip Mortality by Sex, Age, and Cause 2019, 2020, 2021 Palestine Health Annual Report 2022 Palestine - West Bank and Gaza Strip Multiple Indicator Cluster Survey 2000 Palestine Multiple Indicator Cluster Survey 2010, 2014 Palestine Demographic and Health Survey 2004 Palestine Population, Housing, and Establishment Census 1997, 2007 Palestine Demographic Survey 1995 United Nations Demographic Yearbook Palestine Family Health Survey 2006-2007 Palestine - West Bank and Gaza Strip Vital Registration - Deaths 2010 ICD10 WHO Mortality Database	Model life table systems	2008-2016, 2017, 2018, 2021, 2022, 2024
OMN	Oman	Oman Family Health Survey 1995 Oman General Census of Population, Housing, and Establishments 1993 Oman Multiple Indicator Cluster Survey 2014 United Nations Demographic Yearbook WHO Mortality Database Oman Vital Registration - Deaths 2014, 2018, 2019, 2021 ICD10 Oman Statistical Yearbook 2024	Model life table systems	2009-2010, 2014, 2016-2024
PAK	Pakistan	United Nations Demographic Yearbook Pakistan Integrated Household Survey/ Household Integrated Economic Survey 1998-1999, 2001-2002 Pakistan Social and Living Standards Measurement Survey/ Household Integrated Economic Survey 2005-2006, 2007-2008, 2008-2009 Pakistan Demographic and Health Survey 2006-2007, 2012-2013 Pakistan Demographic Survey 1995-1996, 1999, 2005, 2006 Pakistan Special Demographic and Health Survey 2019	Model life table systems	1984-1993

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
PAN	Panama	Total number of deaths officially reported to vital registrations, by age and sex , extracted from the WHO Mortality Database.	VR	1954-2023
PNG	Papua New Guinea	Papua New Guinea Demographic and Health Survey 1996-1997, 2006-2007, 2016-2018 WHO Mortality Database Papua New Guinea Census 2000 Papua New Guinea Vital Registration - Deaths 2022 ICD10	Model life table systems	1977, 1980, 1987-1998, 2020, 2022-2023
PRY	Paraguay	Paraguay Demographic and Health Survey 1990 Paraguay Population and Housing Census 1992,2002 Paraguay Vital Registration - Deaths 2004-2017 Paraguay Integrated Household Survey 1997-1998, 2000-2001 WHO Mortality Database Paraguay Multiple Indicator Cluster Survey 2016 Paraguay Vital Statistics 2017-2020	Model life table systems	1961-1963, 1965-1992, 1994-2022
PER	Peru	Peru Demographic and Health Survey 1991-1992, 1996, 2000 WHO Mortality Database Peru National Population and Housing Census 1993, 2007 Peru Living Standards Measurement Survey 1994 Peru Continuous Demographic and Health Survey 2003-2008, 2009-2014 Peru Demographic and Family Health Survey 2015, 2016, 2018, 2019, 2020, 2021, 2022 Peru Vital Registration - Deaths 2015 ICD10 Peru Birth, Mortality and Marriage, 2018-2020, 2022 Peru Death Information System (SINADEF) - System Report of Deaths 2023	Model life table systems	1966-1973, 1977-1978, 1980-1992, 1994-2022
PHL	Philippines	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	Model life table systems	1963-1978, 1980-2011, 2014, 2016-2019
POL	Poland	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1959-2024
PRT	Portugal	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1955-2023
PRI	Puerto Rico	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1955-1966, 1969-1977, 1979-2017, 2021-2023
QAT	Qatar	United Nations Demographic Yearbook Qatar Vital Statistics Annual Bulletin 1991, 1998, 2000, 2002, 2003 WHO Mortality Database Version November 2015 Qatar Vital Registration - Deaths 2015, 2016, 2021, 2022 ICD10 Qatar Vital Statistics Annual Bulletin 2018, 2019, 2022	Model life table systems	1981-1983, 1985-2024
KOR	Republic of Korea	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1980-2023
MDA	Republic of Moldova	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1981-2023
ROU	Romania	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1959-1978, 1980-2023

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
RUS	Russian Federation	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1980-2019
RWA	Rwanda	Rwanda Population and Housing Census 1991, 2002, 2012 Rwanda Demographic and Health Survey 1992, 2000, 2005, 2010-2011, 2014-2015, 2019-2020 Rwanda Integrated Living Conditions Survey 2005-2006 Rwanda Interim Demographic and Health Survey 2007-2008 Rwanda Malaria Indicator Survey 2013	Model life table systems	
LCA	Saint Lucia	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	Model life table systems	1968-2006, 2008-2020
VCT	Saint Vincent and the Grenadines	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1970-1972, 1974, 1977-2022
WSM	Samoa	Samoa Demographic and Health Survey 2009, 2014, 2019-2020 Samoa Population and Housing Census 2016 Samoa Statistical Abstract 2017, 2020, 2022	Model life table systems	1980, 1992-1993
STP	Sao Tome and Principe	Sao Tome and Principe Multiple Indicator Cluster Survey 2000, 2006, 2014, 2019 WHO Mortality Database Sao Tome and Principe Demographic and Health Survey 2008-2009	Model life table systems	1984-1985, 1987
SAU	Saudi Arabia	Saudi Arabia Family Health Survey 1996-1997 Saudi Arabia Vital Registration - Deaths 1996-2012 Saudi Arabia Demographic Survey 2016 United Nations Demographic Yearbook Saudi Arabia Demographic Research Bulletin 2007 WHO Mortality Database	Model life table systems	2009, 2012-2024
SEN	Senegal	Senegal Demographic and Health Survey 1992-1993, 1997, 1999-2000, 2005, 2010-2011 Senegal General Population and Housing Census 2002 - IPUMS Senegal Malaria Indicator Survey 2006, 2008-2009 Senegal Continuous Demographic and Health Survey 2012-2017, 2018, 2019, 2023	Model life table systems	
SRB	Serbia	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1985-2024
SYC	Seychelles	United Nations Demographic Yearbook Seychelles Population and Housing Census 1960 WHO Mortality Database Seychelles Statistical Bulletin: Population and Vital Statistics December 2016, 2018, 2020, 2021, 2023	Model life table systems	1980-2021, 2019-2021
SLE	Sierra Leone	Sierra Leone Multiple Indicator Cluster Survey 2000, 2005, 2010 Sierra Leone Population and Housing Census 2004 - IPUMS Sierra Leone Demographic and Health Survey 2008, 2013, 2019 Sierra Leone Statistical Digest 2007-2013 Sierra Leone Healthy Sierra Leone (HEAL-SL) Data on Mortality and Causes of Death 2016-2020	Model life table systems	
SGP	Singapore	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1955-2022

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
SVK	Slovakia	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1982-2024
SVN	Slovenia	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1982-2024
SLB	Solomon Islands	Solomon Islands Population and Housing Census 1999, 2009 Solomon Islands Demographic and Health Survey 2006-2007, 2015	Model life table systems	2017-2018
SOM	Somalia	Somalia Multiple Indicator Cluster Survey 1999, 2006	Model life table systems	
ZAF	South Africa	South Africa Living Standards Measurement Study 1993 South Africa Demographic and Health Survey 1998, 2016 South Africa Census 1996, 2001 Country Mortality Data 1980-1999 South Africa Community Survey 2007, 2016 South Africa October Household Survey 1993, 1995-1998 WHO Mortality Database South Africa Vital Registration - Causes of Death 1997-2015, 2017, 2018, 2019 South Africa National Income Dynamics Study - Wave 2 2010-2011 South Africa Rapid Mortality Surveillance Report 2012, 2018 South Africa Population and Housing Census 2011 United Nations Demographic Yearbook South Africa General Household Survey 2016 South Africa Monthly Report on Weekly Numbers of Deaths December 2024 South Africa General Household Survey 2016	Model life table systems	1980-1982, 1984-2020
SSD	South Sudan	Sudan - South Sudan Population and Housing Census 2008 Sudan - South Multiple Indicator Cluster Survey 2010 United Nations Demographic Yearbook	Model life table systems	
ESP	Spain	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1951-2024
LKA	Sri Lanka	Sri Lanka Demographic and Health Survey 1993, 2000, 2006-2007, 2015, 2016, 2019 WHO Mortality Database Sri Lanka Population and Housing Census 2001 Sri Lanka Vital Statistics - Deaths 1993, 2004-2005, 2007, 2009, 2010, 2013, 2014 United Nations Demographic Yearbook Sri Lanka Statistical Abstract 2021 Sri Lanka Vital Statistics - Number of Births, Deaths and Marriages by District 2019-2023	Model life table systems	1950-1968, 1977, 1980-2020
SDN	Sudan	Sudan Maternal and Child Health Survey 1992-1993 United Nations Demographic Yearbook Sudan Multiple Indicator Cluster Survey 2000, 2014 Sudan Population and Housing Census 2008 - IPUMS Sudan Household Health Survey Report 2010 Sudan Family Health Survey 2006	Model life table systems	
SUR	Suriname	Suriname Statistical Yearbook 2020-2022 WHO Mortality Database	Model life table systems	1963-1966, 1971-1973, 1975-2014

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
SWZ	Eswatini	Eswatini Multiple Indicator Cluster Survey 2000, 2010, 2014, 2021-2022 Eswatini Demographic and Health Survey 2006-2007 United Nations Demographic Yearbook	Model life table systems	
SWE	Sweden	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1951-2024
CHE	Switzerland	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1951-2023
SYR	Syrian Arab Republic	Syria Maternal and Child Health Survey 1993 WHO Mortality Database Syria Family Health Survey 2001, 2009 United Nations Demographic Yearbook Palestinians in Syria Multiple Indicator Cluster Survey 2006 Syria Multiple Indicator Cluster Survey 2006	Model life table systems	1973-1978, 1980-1981, 1983-1985, 1998-2010
TJK	Tajikistan	Tajikistan Demographic and Health Survey 2023 Tajikistan Number of Deaths, Thousand People 2000-2020 WHO Mortality Database	Model life table systems	1981-1982, 1985-2005, 2007-2009, 2016-2021
THA	Thailand	United Nations Demographic Yearbook WHO Mortality Database Thailand Population and Housing Census 1990, 2000 Thailand Multiple Indicator Cluster Survey 2005-2006, 2012 Thailand Vital Registration - Deaths 1990, 1991 ICD9 Thailand Survey of Population Change 2005-2006 Thailand Vital Registration - Deaths 2015, 2016 ICD10 Thailand Annual Number of Deaths by Age 2020, 2021, 2022 Thailand Statistics on Number of Deaths 2023	Model life table systems	1955-2019
TLS	Timor-Leste	Timor-Leste Living Standards and Measurement Survey 2001 Timor-Leste Demographic and Health Survey 2003, 2009-2010, 2016 Timor-Leste Population and Housing Census 2004	Model life table systems	
TGO	Togo	Togo Demographic and Health Survey 1998, 2013-2014 Togo Multiple Indicator Cluster Survey 2006, 2016, 2017 Togo Population and Housing Census 2010	Model life table systems	
TON	Tonga	United Nations Demographic Yearbook Tonga Demographic and Health Survey 2012 Tonga Multiple Indicator Cluster Survey 2019	Model life table systems	1992-2003
TTO	Trinidad and Tobago	Trinidad and Tobago Multiple Indicator Cluster Survey 2022 WHO Mortality Database	VR	1951-2020
TUN	Tunisia	United Nations Demographic Yearbook Tunisia Demographic and Health Survey 1988 Tunisia Maternal and Child Health Survey 1994-1995 Tunisia Family Health Survey 2001 Tunisia Multiple Indicator Cluster Survey 2011-2012, 2018, 2023 Tunisia Monthly Statistics Bulletin May 2023 Tunisia Statistical Yearbook 2013-2017, 2015-2019, 2017-2021, 2018-2022 Tunisia Vital Registration - Deaths 2020, 2021 ICD10	Model life table systems	1980, 1987-1989, 1991-2000, 2009, 2013, 2015-2022

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
TKM	Turkmenistan	Total number of deaths officially reported to vital registrations, by age and sex , extracted from the WHO Mortality Database.	Model life table systems	1981-1982, 1985-2015
TUR	Türkiye	Turkey Demographic and Health Survey 1993, 1998, 2003-2004, 2008, 2013-2014, 2018-2019 United Nations Demographic Yearbook Turkey Demographic Survey 1989 Turkey Population Census 2000 WHO Mortality Database Version Turkey Vital Registration - Deaths by Age and Sex 2016 Turkey Death Statistics 2017, 2018 Turkey Mortality and Cause of Death Statistics 2021, 2022, 2023	Model life table systems	1978-1979, 1981-1984, 1987-2023
UGA	Uganda	Uganda Population and Housing Census 1991, 2002, 2024 Uganda Integrated Household Survey 1992-1993 Uganda Demographic and Health Survey 1995, 2000-2001, 2006, 2011, 2016 Uganda Malaria Indicator Survey 2009-2010, 2014-2015 Uganda Living Standards Measurement Survey - Integrated Survey on Agriculture 2009-2010 Uganda AIDS Indicator Survey 2004-2005, 2011 Uganda Performance Monitoring and Accountability 2020 Survey, Round 3 2015	Model life table systems	
UKR	Ukraine	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1981-2012, 2014-2021
ARE	United Arab Emirates	United Arab Emirates Family Health Survey 1995 United Arab Emirates Vital Statistics - Deaths 1995-2005 United Arab Emirates Statistical Abstract 1999-2005, 2007 United Arab Emirates Annual Statistical Report 2006, 2007 United Arab Emirates Vital Registration - Deaths 2018 ICD10 United Arab Emirates Vital Statistics - Births and Deaths 2022 WHO Mortality Database	Model life table systems	2003, 2005-2023
GBR	United Kingdom	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1950-2023
TZA	United Republic of Tanzania	Tanzania Demographic and Health Survey 1991-1992, 1996, 1999, 2004-2005, 2009-2010, 2015-2016 Tanzania Knowledge, Attitudes, and Practices Survey 1994 Tanzania Population Census 2002 - IPUMS Tanzania HIV/AIDS and Malaria Indicator Survey 2007-2008 Tanzania AIDS Indicator Survey 2003-2004, 2011-2012 Tanzania National Panel Survey 2008-2009, 2010-2011, 2012-2013, 2014-2016, 2020-2022 Tanzania National Panel Survey (NPS) 2019-2020 Extended Panel	Model life table systems	1988
USA	United States of America	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1950-2023
URY	Uruguay	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1955-1960, 1963-1978, 1980-2010, 2012-2023

ISO3	Member State, territory or area	Main data inputs for estimation of age-specific mortality rates	GHE2023 life table method	WHO MBD VR years available for life tables
UZB	Uzbekistan	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	VR	1981-2005, 2009-2024
VUT	Vanuatu	Vanuatu Multiple Indicator Cluster Survey 2007-2008, 2023 Vanuatu Population and Housing Census 2009 Vanuatu Demographic and Health Survey 2013	Model life table systems	
VEN	Venezuela (Bolivarian Republic of)	Total number of deaths officially reported to vital registrations, by age and sex, extracted from the WHO Mortality Database.	Model life table systems	1955-2016
VNM	Viet Nam	Vietnam Intercensal Demographic Survey 1994 Vietnam Demographic and Health Survey 1997, 2002 Vietnam Population and Housing Census 1999, 2009 Vietnam Multiple Indicator Cluster Survey 2000, 2006, 2010-2011, 2013-2014, 2020-2021 Vietnam AIDS Indicator Survey 2005 Vietnam Population Change and Family Planning Survey 2007, 2008, 2010, 2011, 2013 Vietnam National Health Survey 2001-2002	Model life table systems	
YEM	Yemen	Yemen Demographic and Health Survey 1991-1992, 1997, 2013 Yemen Family Health Survey 2003 United Nations Demographic Yearbook Special Census Topic, 2000 Round Yemen Multiple Indicator Cluster Survey 2006, 2022-2023 Yemen Annual Statistical Health Report 2006	Model life table systems	
ZMB	Zambia	Zambia Demographic and Health Survey 1992, 1996-1997, 2001-2002, 2007, 2013-2014, 2018-2019, 2024 Zambia Census 1990, 2000, 2010 - IPUMS Zambia Vital Statistics Report 2016, 2017, 2020 Zambia Malaria Indicator Survey 2006, 2012 Zambia Living Conditions Monitoring Survey 1998, 2006, 2010 Zambia Household Health Coverage Survey 2008	Model life table systems	
ZWE	Zimbabwe	Zimbabwe Demographic and Health Survey 1994, 1999, 2005-2006, 2010-2011, 2015, 2023-2024 Zimbabwe Multiple Indicator Monitoring Survey 2009, 2014, 2019 Zimbabwe Vital Registration - Deaths 1990 ICD9 Zimbabwe Population and Housing Census 2012, 2022 Zimbabwe Vital Statistics Report 2022 United Nations Demographic Yearbook	Model life table systems	1982, 1986, 1990-1996, 1998, 2002

* Total registered deaths reported to WHO Mortality Database or from other available sources. This may include registered deaths for which cause of death was not recorded for some countries.

Annex B: Estimated completeness* of death registration data for 2023 or most recent year

Country, territory or area	Year	Completeness (%)	Country, territory or area	Year	Completeness (%)
Albania	2021	100	Lithuania	2023	100
Antigua and Barbuda	2021	96	Luxembourg	2023	100
Argentina	2023	100	Maldives	2021	100
Armenia	2023	100	Malta	2022	100
Australia	2023	100	Mauritius	2023	100
Austria	2023	100	Mexico	2023	100
Azerbaijan	2023	100	Mongolia	2023	100
Bahrain	2020	70	Montenegro	2023	100
Belarus	2018	100	Netherlands	2023	100
Belgium	2022	100	New Zealand	2020	100
Belize	2023	100	North Macedonia	2023	100
Bosnia and Herzegovina	2023	100	Norway	2023	100
Brazil	2023	100	Panama	2023	100
Brunei Darussalam	2023	100	Paraguay	2022	87
Bulgaria	2023	100	Philippines	2023	100
Canada	2023	100	Poland	2023	100
Chile	2023	100	Portugal	2023	100
Colombia	2023	100	Puerto Rico	2023	95
Costa Rica	2023	100	Qatar	2023	100
Croatia	2023	100	Republic of Korea	2023	100
Cuba	2023	100	Republic of Moldova	2023	100
Cyprus	2023	100	Romania	2023	100
Czechia	2023	100	Russian Federation	2019	100
Denmark	2022	100	Saint Lucia	2020	98
Ecuador	2023	100	Saint Vincent and the Grenadines	2022	100
Egypt	2020	100	Saudi Arabia	2023	100
El Salvador	2018	97	Serbia	2023	100
Estonia	2023	100	Seychelles	2021	100
Finland	2023	100	Singapore	2022	100
France	2023	100	Slovakia	2023	100
Georgia	2023	100	Slovenia	2023	100
Germany	2023	100	South Africa	2020	88
Greece	2023	100	Spain	2023	100
Grenada	2023	100	Sweden	2023	100
Guatemala	2023	98	Switzerland	2023	100
Hungary	2023	100	Tajikistan	2022	99
Iceland	2023	100	Thailand	2023	100
Ireland	2022	100	Türkiye	2023	100
Israel	2023	100	Turkmenistan	2015	82
Italy	2023	100	Ukraine	2021	100
Jamaica	2022	100	United Arab Emirates	2023	100
Japan	2021	100	United Kingdom	2023	100
Kazakhstan	2022	100	United States of America	2023	100
Kuwait	2023	100	Uruguay	2023	100
Kyrgyzstan	2023	100	Uzbekistan	2023	100

Latvia	2023	100	Venezuela (Bolivarian Republic of)	2016	99
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- * Completeness for ages 15 and over estimated for total registered deaths reported to WHO Mortality Database or from other available sources. This may include registered deaths for which cause of death was not recorded for some countries. Hence the completeness shown here may be greater than that for cause of death datasets included in the WHO Mortality Database.