

World Mortality Report 2015



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Department of Economic and Social Affairs
Population Division

World Mortality Report 2015



United Nations
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PREFACE

The *World Mortality Report 2015*, prepared by the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, provides an overview of the patterns, levels, and trends in mortality at the national, regional, and global level during 1950-2015 drawn from the latest set of demographic estimates for 233 countries or areas, as published in *World Population Prospects: The 2015 Revision* (United Nations, 2015a). The analysis focuses on country and regional data for selected mortality indicators. In addition to examining the summary indicator of life expectancy at birth, the report analyses levels and trends in mortality for key age groups in childhood and provides a snapshot of adult and “old age” mortality levels. The report focuses mostly on the period from 1990 to 2015, the implementation period identified for the Millennium Development Goals, and reviews in particular how further improvements in child survival can be achieved by addressing key determinants of inequalities in infant and early childhood mortality in selected lower and middle-income countries. Some implications for the sustainable development goals and targets on health are discussed, including priorities for future reductions in mortality risks.

The mortality estimates presented in this report are available from the Population Division’s website as part of the *World Population Prospects: The 2015 Revision* (<http://esa.un.org/unpd/wpp/>). The annex table 1 provides data in the period from 1950 to 2015 on summary mortality indicators on life expectancy, infant and children, adult, and old ages. This information is presented for the world, for geographic regions and development groups, and for the 201 countries or areas with 90,000 inhabitants or more in 2015. In addition, a comprehensive listing of sources of data relevant for mortality estimation in each country or area is also available online as supplement to this report (see *Mortality Data Inventory 2015*¹)

The Population Division is grateful to the Statistics Division of the United Nations Department of Economic and Social Affairs for its continuing cooperation. The Population Division also acknowledges the assistance and cooperation of the World Health Organization, UNICEF, UNFPA, UNAIDS, Measure DHS, the Human Mortality Database, the International Programs Center of the U.S. Census Bureau, and IPUMS-International as well as national statistical offices in providing some of the data that inform the estimates presented in this report.

For information about the *World Mortality Report 2015*, please contact the Director, Population Division, Department of Economic and Social Affairs, United Nations, New York, NY 10017, USA (email: population@un.org).

¹ United Nations, Department of Economic and Social Affairs, Population Division (2015). *World Mortality Report 2015: Mortality Data Inventory 2015 (POP/DB/MORT/2015)*. Available online at: <http://www.un.org/en/development/desa/population/theme/mortality/>

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EXPLANATORY NOTES

The following symbols have been used in the tables throughout this report:

Two dots (..) indicate that data are not available or are not reported separately.

A hyphen (-) indicates that the item is not applicable.

A minus sign (-) before a figure indicates a decrease.

A full stop (.) is used to indicate decimals.

Years given refer to 1 July.

Use of a hyphen (-) between years, for example, 1995-2000, signifies the full period involved, from 1 July of the first year to 1 July of the second year.

Numbers and percentages in tables do not necessarily add to totals because of rounding.

References to countries, territories and areas:

The designations employed and the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

The designation “more developed” and “less developed” regions are intended for statistical purposes and do not express a judgment about the stage reached by a particular country or area in the development process. The term “country” as used in this publication also refers, as appropriate, to territories or areas.

More developed regions comprise all regions of Europe plus Northern America, Australia/New Zealand and Japan. Less developed regions comprise all regions of Africa, Asia (excluding Japan), and Latin America and the Caribbean as well as Melanesia, Micronesia and Polynesia. Countries or areas in the more developed regions are designated as “developed countries”. Countries or areas in the less developed regions are designated as “developing countries”.

The least developed countries, as defined by the United Nations General Assembly in its resolutions (59/209, 59/210, 60/33, 62/97, 64/L.55, 67/L.43, 64/295) included 48 countries in January 2014: 34 in Africa, 9 in Asia, 4 in Oceania and one in Latin America and the Caribbean. Those 48 countries are: Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao People's Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, São Tomé and Príncipe, Senegal, Sierra Leone, Solomon Islands, Somalia, South Sudan, Sudan, Timor-Leste, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen and Zambia. These countries are also included in the less developed regions.

The group denominated “other less developed countries” comprises all countries in the less developed regions minus the least developed countries.

The term “sub-Saharan Africa” is used to designate the countries in Africa that exclude those in Northern Africa.

Countries and areas are grouped geographically into six major areas designated as: Africa; Asia; Europe; Latin America and the Caribbean; Northern America, and Oceania. These major areas are further divided into 21 geographic regions.

The names and composition of geographic areas follow those presented in “Standard country or area codes for statistical use” (ST/ESA/STAT/SER.M/49/Rev.3), available at <http://unstats.un.org/unsd/methods/m49/m49.htm>.

The following abbreviations/acronyms have been used:

AIDS	Acquired Immunodeficiency Syndrome
DESA	Department of Economic and Social Affairs
HIV	Human Immunodeficiency Virus
IMR	Infant Mortality Rate
MDG	Millennium Development Goals
NCD	Non-Communicable Disease
SAR	Special Administrative Region
SDG	Sustainable Development Goals
U5MR	Under-five Mortality Rate
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNPD	United Nations Population Division
WHA	World Health Assembly
WHO	World Health Organization

CLASSIFICATION OF COUNTRIES BY MAJOR AREA AND REGION OF THE WORLD

Africa

<i>Eastern Africa</i>	<i>Middle Africa</i>	<i>Northern Africa</i>	<i>Western Africa</i>
Burundi	Angola	Algeria	Benin
Comoros	Cameroon	Egypt	Burkina Faso
Djibouti	Central African Republic	Libyan Arab Jamahiriya	Cabo Verde
Eritrea	Chad	Morocco	Côte d'Ivoire
Ethiopia	Congo	Sudan	Gambia
Kenya	Democratic Republic of the	Tunisia	Ghana
Madagascar	Congo	Western Sahara	Guinea
Malawi	Equatorial Guinea		Guinea-Bissau
Mauritius ²	Gabon	<i>Southern Africa</i>	Liberia
Mayotte	São Tomé and Príncipe		Mali
Mozambique		Botswana	Mauritania
Réunion		Lesotho	Niger
Rwanda		Namibia	Nigeria
Seychelles		South Africa	Saint Helena ³ *
Somalia		Swaziland	Senegal
South Sudan			Sierra Leone
Uganda			Togo
United Republic of Tanzania ⁴			
Zambia			
Zimbabwe			

² Including Agalega, Rodrigues, and Saint Brandon.

³ Including Ascension, and Tristan da Cunha.

⁴ Including Zanzibar.

CLASSIFICATION OF COUNTRIES (*continued*)

Asia			
<i>Eastern Asia</i>	<i>South-Central Asia</i> ⁵	<i>South-Eastern Asia</i>	<i>Western Asia</i>
	<i>Central Asia</i>		
China ⁶	Kazakhstan	Brunei Darussalam	Armenia
China, Hong Kong SAR ⁷	Kyrgyzstan	Cambodia	Azerbaijan ⁸
China, Macao SAR ⁹	Tajikistan	Indonesia	Bahrain
China, Taiwan Province of China	Turkmenistan	Lao People's Democratic	Cyprus ¹⁰
Democratic People's			
Republic of Korea	Uzbekistan	Republic	Georgia ¹¹
Japan		Malaysia ¹²	Iraq
Mongolia	<i>Southern Asia</i>	Myanmar	Israel
Republic of Korea		Philippines	Jordan
	Afghanistan	Singapore	Kuwait
	Bangladesh	Thailand	Lebanon
	Bhutan	Timor-Leste	Oman
	India	Viet Nam	Qatar
	Iran (Islamic Republic of)		Saudi Arabia
	Maldives		State of Palestine ¹³
	Nepal		Syrian Arab Republic
	Pakistan		Turkey
	Sri Lanka		United Arab Emirates
			Yemen

⁵ The regions Southern Asia and Central Asia are combined into South-Central Asia.

⁶ For statistical purposes, the data for China do not include Hong Kong and Macao, Special Administrative Regions (SAR) of China, and Taiwan Province of China.

⁷ As of 1 July 1997, Hong Kong became a Special Administrative Region (SAR) of China.

⁸ Including Nagorno-Karabakh.

⁹ As of 20 December 1999, Macao became a Special Administrative Region (SAR) of China.

¹⁰ Including Northern Cyprus.

¹¹ Including Abkhazia and South Ossetia.

¹² Including Sabah and Sarawak.

¹³ Including East Jerusalem.

CLASSIFICATION OF COUNTRIES (*continued*)

Europe

<i>Eastern Europe</i>	<i>Northern Europe</i>	<i>Southern Europe</i>	<i>Western Europe</i>
Belarus	Channel Islands ¹⁴	Albania	Austria
Bulgaria	Denmark	Andorra*	Belgium
Czechia	Estonia	Bosnia and Herzegovina	France
Hungary	Faeroe Islands*	Croatia	Germany
Poland	Finland ¹⁵	Gibraltar*	Liechtenstein*
Republic of Moldova ¹⁶	Iceland	Greece	Luxembourg
Romania	Ireland	Holy See ¹⁷ *	Monaco*
Russian Federation	Isle of Man*	Italy	Netherlands
Slovakia	Latvia	Malta	Switzerland
Ukraine	Lithuania	Montenegro	
	Norway ¹⁸	Portugal	
	Sweden	San Marino*	
	United Kingdom of Great	Serbia ¹⁹	
	Britain and Northern	Slovenia	
	Ireland ²⁰	Spain ²¹	
		The former Yugoslav	
		Republic of Macedonia ²²	

¹⁴ Refers to Guernsey, and Jersey.

¹⁵ Including Åland Islands.

¹⁶ Including Transnistria.

¹⁷ Refers to the Vatican City State.

¹⁸ Including Svalbard and Jan Mayen Islands.

¹⁹ Including Kosovo.

²⁰ Also referred to as United Kingdom.

²¹ Including Canary Islands, Ceuta and Melilla.

²² Also referred to as TFYR Macedonia.

CLASSIFICATION OF COUNTRIES (*continued*)

Latin America and the Caribbean

<i>Caribbean</i>	<i>Central America</i>	<i>South America</i>
Anguilla*	Belize	Argentina
Antigua and Barbuda	Costa Rica	Bolivia
Aruba	El Salvador	Brazil
Bahamas	Guatemala	Chile
Barbados	Honduras	Colombia
British Virgin Islands*	Mexico	Ecuador
Caribbean Netherlands* ²³	Nicaragua	Falkland Islands (Malvinas)*
Cayman Islands*	Panama	French Guiana
Cuba		Guyana
Curaçao		Paraguay
Dominica*		Peru
Dominican Republic		Suriname
Grenada		Uruguay
Guadeloupe ²⁴		Venezuela (Bolivarian Rep. of)
Haiti		
Jamaica		
Martinique		
Montserrat*		
Puerto Rico		
Saint Kitts and Nevis*		
Saint Lucia		
Saint Vincent and the Grenadines		
Sint Maarten (Dutch part)*		
Trinidad and Tobago		
Turks and Caicos Islands*		
United States Virgin Islands		

²³ Refers to Bonaire, Saba and Sint Eustatius.

²⁴ Including Saint-Barthélemy and Saint-Martin (French part).

CLASSIFICATION OF COUNTRIES (*continued*)

Northern America

Bermuda*
Canada
Greenland*
Saint Pierre and Miquelon*
United States of America

Oceania

<i>Australia/New Zealand</i>	<i>Melanesia</i>	<i>Micronesia</i>	<i>Polynesia</i> ²⁵
Australia ²⁶	Fiji	Guam	American Samoa*
New Zealand	New Caledonia	Kiribati	Cook Islands*
	Papua New Guinea	Marshall Islands*	French Polynesia
	Solomon Islands	Micronesia	Niue*
	Vanuatu	(Federated States of)	Samoa
		Nauru*	Tokelau*
		Northern Mariana Islands*	Tonga
		Palau*	Tuvalu*
			Wallis and Futuna Islands*

Sub-Saharan Africa

Angola	Côte d'Ivoire	Guinea-Bissau	Namibia	South Africa
Benin	Democratic Republic	Kenya	Niger	South Sudan
Botswana	of the Congo	Lesotho	Nigeria	Swaziland
Burkina Faso	Djibouti	Liberia	Réunion	Togo
Burundi	Equatorial Guinea	Madagascar	Rwanda	Uganda
Cameroon	Eritrea	Malawi	Saint Helena	United Republic
Cape Verde	Ethiopia	Mali	São Tomé and Príncipe	of Tanzania
Central African Republic	Gabon	Mauritania	Senegal	Zambia
Chad	Gambia	Mauritius	Seychelles	Zimbabwe
Comoros	Ghana	Mayotte	Sierra Leone	
Congo	Guinea	Mozambique	Somalia	

NOTE: Countries with a population of less than 90,000 in 2015 are indicated by an asterisk (*).

²⁵ Including Pitcairn.

²⁶ Including Christmas Island, Cocos (Keeling) Islands, and Norfolk Island.

Executive summary

The global increase of living standard, the improvement in health and the consequent reduction in mortality over the last six and a half decades are among the notable achievements of development. Central to this transformation has been the epidemiological transition, from predominantly infectious causes of death to a predominance of deaths due chronic and degenerative diseases. The epidemiological transition entailed a shift in the age pattern of mortality from one in which childhood diseases were more common to a situation where disease and mortality are highly concentrated at older ages, thus the importance of analysing mortality in childhood, adulthood and at old age. The driving force in this transition is socioeconomic development accompanied by investments in public health and education.

Despite this impressive global progress, large disparities remain in levels of mortality across countries and regions. These differentials are the results of uneven progress in development, and reflect inequalities in access to food, safe drinking water, sanitation, medical care and other basic human needs. They also reflect risk factors, behavioural choices and societal contexts that affect the survival of individuals. The reduction of mortality, particularly child and maternal mortality has been a core target of the internationally agreed development goals, such as those contained in the Programme of Action of the International Conference on Population and Development, the United Nations Millennium Declaration and the 2030 Agenda for Sustainable Development (United Nations, 2015b). Accurate estimates of mortality are crucial for assessing progress towards these goals and the health of populations more generally.

“Health is central to development: it is a precondition for, a contributor to, as well as an indicator and an outcome of progress in sustainable development” (WHO, 2012). Over the last several decades, great progress in improving health, nutrition, access to safe water, improved sanitation and standard of living have been accomplished through the world. The Millennium Development Goals (MDGs), especially in respect to mother and child health (goals 4 and 5), but also in reducing the incidence and mortality impact of the HIV/AIDS epidemic, tuberculosis and malaria (goal 6), have contributed to accelerate progress in child survival and contributed to a significant reduction in maternal mortality in many countries. While these achievements have been remarkable, they must be sustained within the coming years, and even further accelerated to achieve the new and more ambitious Sustainable Development Goals (SDGs) and targets adopted by UN Member States in September 2015 (United Nations, 2015a).

This report, which addresses various aspects of mortality, is primarily based on the results of the *2015 Revision of the World Population Prospects*. The first chapter summarizes the patterns, levels and trends in mortality at the national, regional and global level in the period from 1950 to 2015 drawn from the latest set of demographic estimates for the world, major geographic regions and development groups, and for the 201 countries or areas with 90,000 inhabitants or more in 2015, as published in the *World Population Prospects: The 2015 Revision* (United Nations, 2015c). It focuses mostly on the years from 1990 to 2015, the period used for assessing progress toward the Millennium Development Goals (MDGs).

The goal of reducing mortality at the national level as envisioned in the MDGs or the new Sustainable Development Goals (SDGs) requires an attention to existing inequalities in survival, especially for those in the most vulnerable situations. Hence, the second chapter focuses on inequalities in child survival and on how they constrain further improvements in average levels of

child survival. It looks at the disparities in early childhood mortality in 50 low-and middle-income countries (LMICs) using the Demographic and Health Surveys (DHS) conducted between 2005 and 2013. The third chapter discusses the policies and programmes to be implemented to achieve this reduction in mortality. Annex table 1 provides data on summary indicators of mortality and life expectancy for infants, children, adults and older persons from 1950 to 2015, and annex table 2 provides the list of countries with the most recent DHS Surveys conducted during 2005-2013 including the number of children analysed in each survey.

The most recent United Nations country-level mortality estimates for the period 2010-2015, from the *World Populations Prospects: The 2015 Revision* indicate that the number of years that a newborn is expected to live, on average, has increased worldwide by 24 years since 1950, or by about 3.6 years per decade over the past 65 years. Worldwide, 55.1 per cent of world population lives in the period from 2010 to 2015 in countries with life expectancy above 70 years, and 9.6 per cent lives in countries where life expectancy has reached 80 or higher.

Global progress since 1990 has been substantial: child mortality rates, also known as the “under-five mortality rates”,²⁷ have declined at a remarkable pace by about 3% annually. Despite this significant improvement, the ambitious Millennium Development Goal 4 target of a two-thirds reduction in under-five mortality between 1990 and 2015 has not been reached at the global scale, but it contributed greatly to accelerate the reduction of childhood mortality (UN IGME, 2015).

Worldwide, under-five mortality fell by 45 per cent between 1990-1995 and 2010-2015, from 91 deaths per 1,000 live births to 50 deaths per 1,000 live births. In 2010-2015, the probability of dying between birth and age 5 in the less developed regions is 54 per 1,000, more than eight times higher than in the more developed regions, where it stands at 6 per 1,000 live births.

Mortality affecting young and middle-aged adults (that is, between ages 15 and 59) is becoming increasingly preventable through changes in risk behaviours (for example, decline in tobacco use) or through medical intervention (for example, early detection and treatment of cervical cancer and cardiovascular diseases). In 1950-1955, no country had an adult probability of dying between exact ages 15 and 60 years (also called “adult mortality rate”, or more informally, “adult mortality”) lower than 100 per 1,000, meaning that 10 per cent of those alive at age 15 died before reaching 60. In 2010-2015, 35 per cent of the global adult age population lived in countries with adult mortality lower than 100 per 1,000.

Adult mortality is higher for men than for women in all regions of the world. Overall, the magnitude of the differences in adult mortality risks by sex varies considerably across regions. Overall, Australia/New Zealand, Northern, Southern and Western Europe, as well as Northern America are among the regions with the lowest levels of adult mortality in the world.

The expected number of remaining years of life for those reaching age 60 years has increased steadily since the 1950s, at a pace of about one year per decade. Given the mortality rates prevailing worldwide in 2010-2015, a person aged 60 could expect to live another 20.2 years, compared to 14 years in 1950-1955.

The report analyses the progress and challenges to improving life expectancy at birth by 1) reviewing the levels and trends in key mortality indicators across countries classified by development group and major geographic area; (2) examining the changes in survival prospects at

²⁷ Measured as the number of deaths to children under the age of 5 years per 1,000 live births.

various stages of the life course, including among children, among adults in the reproductive and working ages, and among older persons; (3) reviewing the determinants of inequalities in survival on children under-five years old as to proposing ways to further reduce under-five mortality by addressing socio-economic inequalities in child survival.

KEY FINDINGS

- There has been substantial global progress in life expectancy at birth since the 1950s, albeit with the persistence of significant differences across and within regions.
- From 1950 to 2015, the number of years that a newborn is expected to live, on average, increased worldwide by 24 years, or by about 3.6 years per decade.
- In the past 65 years, all major areas of the world have achieved major increases in life expectancy at birth, but progress in mortality reduction has differed greatly across regions.
- Under-five (or child) mortality rates have declined at the remarkable pace of nearly 3 per cent per year between 1990 and 2015. Child mortality rates are currently about 45 per cent lower than in 1990-1995. However, progress has been uneven: an increasing proportion of child deaths occur in sub-Saharan Africa and Southern Asia.
- While the chances of survival of children have greatly improved recently, differences exist between and within countries.
- Further reductions in under-five mortality will be necessary to achieve the new Sustainable Development Goals (SDGs) by 2030, accelerating the progress registered during the Millennium Development Goals (MDGs) period. In particular, new policies to reduce socio-economic inequalities and to improve the living conditions of the most disadvantaged will be needed.
- Within countries, household wealth is closely associated with the survival of children under five years of age. Differences in survival by household wealth remain even after accounting for other factors, such as age of mother at the birth of the child, length of the mother's previous birth interval, birth order and sex of the child.
- Children from the richest households are more likely to survive through the first five years of life than their counterparts from the poorest households.
- Across the globe, the association between household wealth and child mortality tends to be strongest amongst children who are 1-4 years old, but is also significant during the first year of life.
- Asia, and Latin America and the Caribbean are the regions where the association between household wealth and the risk of child death is most pronounced.
- Aside from household wealth, mother's education is known to have a significant and independent effect on child survival.
- Thus a greater emphasis should be given as part of the 2030 Development Agenda to reduce health inequalities, and to provide universal access to health care services for mothers, children and adolescents—especially among the most vulnerable populations.
- Mortality amongst young and middle-aged adults is increasingly preventable by changing risk behaviours and timely medical interventions. The probability of dying between ages 15 and 60 decreased by 60 per cent between 1950 and 2015, or by about 9 per cent per decade.
- Adult mortality, just like child mortality, is closely linked to the level of development.
- Mortality at the older adult ages has also been improving significantly. Life expectancy at age 60 has been increasing steadily since the 1950s, by about one year per decade.
- Adult mortality is typically higher for men than for women in all regions of the world, and across all levels of development. Accordingly, life expectancy at birth for women is almost always higher than for men.
- Further reductions in non-communicable diseases among adults, including for the more developed regions, will require a growing number of countries to scale-up, depending on their respective demographic and health profiles, a range of cost-effective prevention and treatment options both at the individual and collective levels.

I. Global levels and trends in mortality

A. INTRODUCTION

The global increase of living standard, the improvement in health, and the consequent reduction in mortality over the last six and half decades are among the notable achievements of development. This report analyses worldwide mortality declines, according to the *2015 Revision of World Population Prospects*. Life expectancy at birth for the world as a whole rose from 46.8 years in 1950-1955 to 70.5 years in 2010-2015. The proportion of the world's population living in countries where life expectancy was below 50 years fell from 57.7 per cent in the early 1950s to 0.1 per cent in 2010-2015, while the share living in countries with life expectancy of 70 years or higher rose from 1 per cent to 55.1 per cent. Over the same period, the probability of dying in early childhood — that is, the number of deaths below age 5 per 1,000 live births — fell from 215.1 per 1,000 to 49.6 per 1,000.

However, large disparities remain in levels of mortality across countries and regions. These differentials are results of uneven progress in development, and reflect inequalities in access to food, safe drinking water, sanitation, medical care and other basic human needs. They also reflect risk factors, behavioural choices and societal contexts that affect the survival of individuals. The reduction of mortality, particularly child and maternal mortality, is a core target of the internationally agreed development goals, such as those contained in the Programme of Action of the International Conference on Population and Development, the United Nations Millennium Declaration and the 2030 Agenda for Sustainable Development. Accurate estimates of mortality are crucial for assessing progress towards these goals and the health of populations more generally.

The improvement in the health of populations and the reduction in mortality over the last six and half decades are among the notable achievements of development. The dominant description of this transformation has been the epidemiological transition, from predominantly infectious causes of death to a predominance of deaths due to chronic and degenerative diseases. This entailed a shift in the age pattern of mortality from one in which childhood diseases are more common to a situation where disease and mortality are concentrated at old age, thus the importance of analysing mortality in childhood, adulthood and at old age. The driving force in the transition is socioeconomic development associated with investments in public health, and education.

The *World Mortality Report 2015* presents mortality levels and trends for 201 countries and areas (hereafter referred to as “countries”) that had populations of 90,000 or more in 2015. The estimates for individual countries are based upon data collected in each country pertaining to deaths and the population at risk of death, both by age and sex. Such data are collected for national populations through a variety of instruments, including registration systems for vital events, population censuses and sample surveys. The amount and the quality of data available to produce estimates of mortality levels and trends for the entire time span between 1950 and 2015, and for all age groups, vary widely across countries and over time. The most recent sources of

data included for each country or area may be found at <http://esa.un.org/unpd/wpp/Excel-Data/data-sources.htm>.

Variable degrees of uncertainty are associated with mortality estimates obtained from each of the types of empirical sources. Death registration, for example, varies in quality and completeness across countries and over time. Household surveys also vary in quality and coverage and tend to be much better at producing valid estimates of under-five mortality than of mortality risks at other ages. As a result, information from such surveys often must be supplemented with model age patterns of mortality to generate estimates of mortality risks across the full range of ages.

In order to produce a time series of mortality estimates by age and sex for each country or area, the Population Division uses a variety of techniques to evaluate the data quality and make adjustments where necessary, and to ensure that the estimates are consistent with information on fertility and migration trends, which together shape the size and age structure of a population at any given point in time. The specific methodologies employed, including those used to incorporate information on the mortality impact of the HIV/AIDS epidemic, are described in the report of the *Methodology of the United Nations Population Estimates and Projections* (United Nations, 2015a). Other approaches to reconcile discrepant information on mortality risks from various data sources to produce consistent time series of mortality estimates across countries and over time have been proposed (for example, GBD 2013 Mortality and Causes of Death Collaborators, 2015). All approaches highlight the wide range of uncertainty that must be understood to accompany the mortality estimates for many countries, particularly those for which empirical data are sparse or widely discrepant. More and higher quality mortality surveys could help to reduce that uncertainty in the future, but ultimately systems of civil registration and vital statistics must be improved to provide each country with valid measurements of the age- and sex-specific mortality risks in their populations (United Nations, 2014).

B. LIFE EXPECTANCY AT BIRTH

The level of life expectancy at birth summarizes mortality levels of a population at all ages for a given time period (Table A1). The measure describes the average length of time that a person born in that period would live if he or she experienced the age-specific mortality rates of that period throughout his or her lifetime. It provides a useful description of mortality that is independent from the age structure of population, and is therefore comparable across populations and over time periods.

1. Distribution of world population by the level of life expectancy

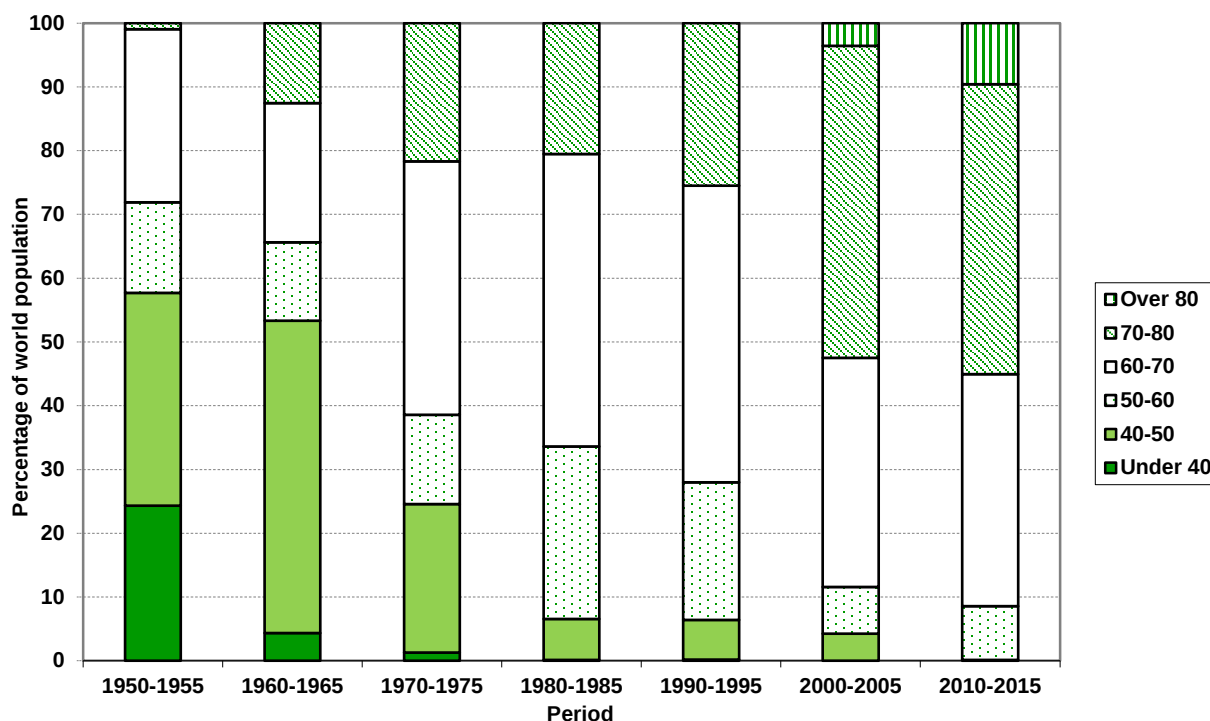
Table I.1 and Figure I.1 show the changing proportions of world population according to the level of life expectancy at birth since 1950, as assessed in *World Population Prospects: The 2015 Revision*. In 1950-1955, 71.9 per cent of the world population lived in countries where life expectancy at birth was lower than 60 years. By 2010-2015, only 8.5 per cent of the world population lived in countries with life expectancy below 60.

At the other end of the spectrum, in 1950-1955 only a few countries had a level of life expectancy at birth greater than 70 years, and only 1 per cent of the world population lived in such countries. In 2010-2015, 55.1 per cent of world population lived in countries with life expectancy above 70 years; and for 9.6 per cent of the global population life expectancy has reached 80 or higher.

Table I.1. Distribution of the world population by the level of life expectancy at birth for a person's country or area of residence, 1950-1955 to 2010-2015

Life expectancy at birth	Population by the level of life expectancy at birth (in years)						
	1950-1955	1960-1965	1970-1975	1980-1985	1990-1995	2000-2005	2010-2015
Total population (in billion)							
Under 40	0.642	0.138	0.049	0.006	0.010	0.000	0.000
40-49	0.882	1.552	0.902	0.299	0.343	0.269	0.008
50-59	0.374	0.389	0.541	1.256	1.191	0.463	0.602
60-69	0.718	0.692	1.540	2.132	2.568	2.271	2.598
70-79	0.025	0.398	0.839	0.953	1.409	3.092	3.245
Over 80	0.000	0.000	0.000	0.000	0.000	0.227	0.687
Percentage distribution							
Under 40	24.3	4.3	1.3	0.1	0.2	0.0	0.0
40-49	33.4	49.0	23.3	6.4	6.2	4.3	0.1
50-59	14.2	12.3	14.0	27.0	21.6	7.3	8.4
60-69	27.2	21.8	39.8	45.9	46.5	35.9	36.4
70-79	1.0	12.6	21.7	20.5	25.5	48.9	45.5
Over 80	0.0	0.0	0.0	0.0	0.0	3.6	9.6

Figure I.1. Distribution of the world's population by the level of life expectancy at birth for a person's country or area of residence, 1950-1955 to 2010-2015



2. Trends in life expectancy for development groups and major areas

In 1950-1955, average life expectancy for the world was 46.8 years (table I.2). In the developing world, the decline of mortality from high levels had just begun. The least developed countries had life expectancy of only 36.1 years, while the other less developed countries' life expectancy was higher at 42.3 years. In the more developed countries, the decline of mortality had taken place long before 1950, and life expectancy had reached an average level of 64.7 years, 23.2 years higher than the level for the less developed regions as a whole. For the world's major areas, life expectancy ranged from a low of 37.3 years in Africa to a high of 68.6 years in Northern America.

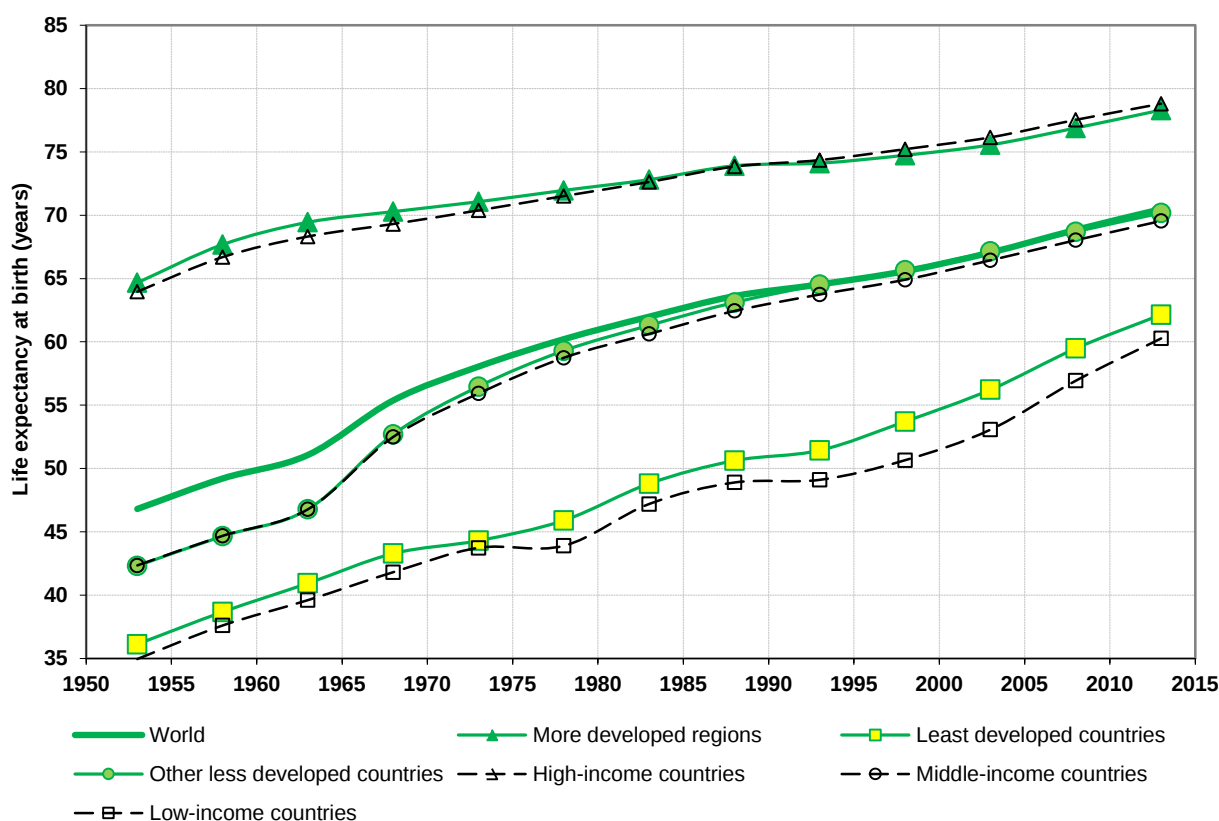
Table I.2. Life expectancy at birth by development and income group and region, 1950-1955 and 2005-2015

Development group or major area	Life expectancy at birth (years)			
	1950-1955	2010-2015	Absolute change	Percentage change
World	46.8	70.5	23.7	50.6
More developed regions	64.7	78.3	13.6	21.1
Less developed regions	41.5	68.8	27.2	65.6
Least developed countries	36.1	62.2	26.0	72.0
Other less developed countries	42.3	70.2	27.9	65.8
High-income countries	64.0	78.8	14.8	23.2
Middle-income countries	42.4	69.5	27.2	64.2
Low-income countries	35.0	60.3	25.3	72.4

Development group or major area	Life expectancy at birth (years)			
	1950-1955	2010-2015	Absolute change	Percentage change
Africa	37.3	59.5	22.2	59.4
Asia	42.1	71.6	29.5	70.0
Europe	63.6	77.0	13.4	21.1
Latin America and the Caribbean	51.2	74.5	23.3	45.6
Northern America	68.6	79.2	10.6	15.4
Oceania	60.4	77.5	17.0	28.2

Since 1950, all regions of the world have achieved major increases in life expectancy (figure I.2). The world as a whole gained an additional 23.6 years of life expectancy (50.6 per cent) since the early 1950s (table I.2), reaching a level of 70.5 years in 2010-2015. During this same period, the less developed regions gained 27.3 years (65.6 per cent) of life expectancy, bigger than the world's average. In the more developed regions, gains were smaller at 13.6 years (21.1 per cent) of life expectancy, because large reductions in child mortality, which have a larger impact than changes in adult mortality on overall life expectancy change, had already occurred by 1950 in those regions.

Figure I.2. Life expectancy at birth by development group, 1950-2015

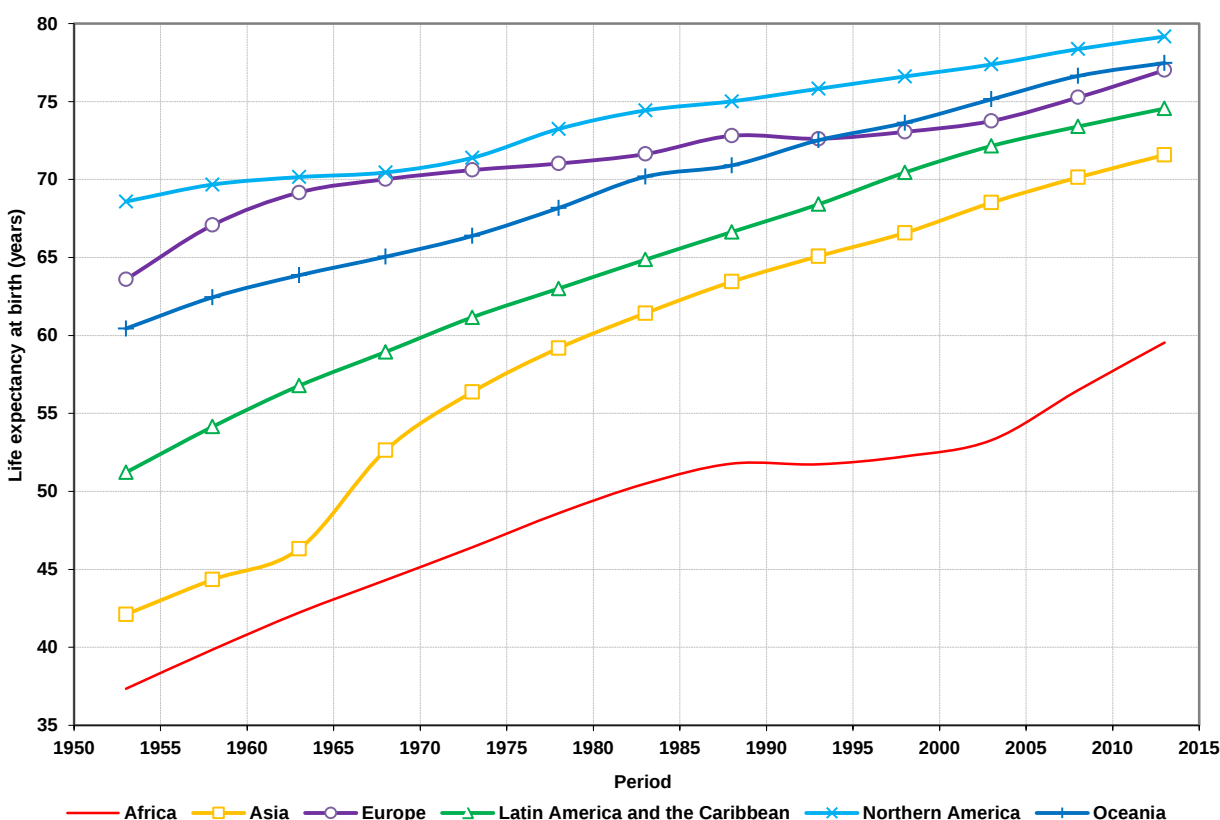


In this report, countries and areas are also categorised into high-income, middle-income, and low-income countries that are defined by the World Bank. The major difference between the least developed and the low-income countries is that, some populous countries have life expectancy higher than the average of the least developed countries, such as Bangladesh and Myanmar, but are not categorised in the low-income countries. As a result, the levels of life expectancy of low-income countries are lower than that of the least developed countries. Similarly, the major difference between the more developed regions and the high-income countries is that, some populous countries and areas have life expectancy higher than the average of the more developed regions, such as the Republic of Korea, Taiwan province of China, Hong Kong SAR of China, and Singapore, are categorised in the high-income countries. As a consequence, the levels of life expectancy of the high-income countries are higher than that of the more developed regions, in recent years. The differences between the middle-income countries and the other less developed regions, and between other mortality measures such as child mortality, could be explained as combinations of the two major differences discussed above.

The difference in life expectancy between the less developed regions and the more developed regions reduced from 23.2 years in 1950-1955 to 9.6 years in 2010-2015, indicating mortality declines in the former were faster than in the latter. Progress in the least developed countries, which saw a gain of 26 years, however, were less than in the other less developed countries, where life expectancy increased by 27.8 years. As a result, the life expectancy gap between the least developed countries and the other less developed countries widened from 6.2 years to 8.0 years.

Among the major areas, progress in mortality reduction has differed greatly (figure I.3). Asia, and Latin America and the Caribbean experienced steady increases in life expectancy throughout the second half of the twentieth century. Latin America and the Caribbean had the highest life expectancy among large developed regions throughout this period, rising from 51.2 years in 1950-1955 to 74.6 years in 2010-2015 (table I.2). But the largest increase in life expectancy among regions occurred in Asia, rising from 42.1 years in 1950-1955 to 71.6 years in 2010-2015, that is a gain of about 30 years. In Africa (figure I.3), however, life expectancy increased from the 1950s until the early 1980s, but this progress slowed down between the late 1980s and all through the 1990s, mainly because of the HIV/AIDS epidemic. There have been indications in more recent years that the worst part of the epidemic has passed, with the estimated level of life expectancy at birth for the continent reaching 59.5 years in 2010-2015.

Figure I.3. Life expectancy at birth by major area, 1950-2015



Within the more developed regions, trends for Northern America and Europe have diverged since the early 1970s. The two major areas had nearly equal life expectancy in 1965-1970, 70.5 and 70.0 years, respectively. After 1970, Northern America experienced subsequently increase of life expectancy, reaching 79.2 years in 2010-2015. Europe, on the other hand, reached a 77.0 years life expectancy in 2010-2015. The difference was mainly a result of declines in life expectancy in some Eastern European countries.

3. Sex differences in life expectancy

In all development groups and regions, women live longer than men (table I.3). Worldwide, women lived on average, 4.5 years longer than men in 2010-2015. This “female advantage” in life expectancy means that life expectancy for women globally was 6.5 per cent higher than that for men. The female advantage- the difference of life expectancy between sexes was largest in the more developed regions where women live 6.4 years (or 8.5 per cent) longer than men in 2010-2015. In the less developed regions, women’s life expectancy was 3.7 years (or 5.6 per cent) higher than men’s in the same period. The difference by sex is the smallest in the least developed countries, at 2.9 years (or 4.7 per cent) greater for women compared to men. In all development groups, the sex gap in life expectancy has grown since 1950-1955. This change has been larger in the less developed regions, where the sex difference in life expectancy was 1.9 years in 1950-1955, and 3.7 years in 2010-2015.

Table I.3. Life expectancy at birth by sex, by development group and major area, 1950-1955 and 2005-2015

<i>Development group or major area</i>	<i>Life expectancy at birth (years)</i>							
	<i>1950-1955</i>				<i>2010-2015</i>			
	<i>Male</i>	<i>Female</i>	<i>Percentage difference</i>	<i>Absolute difference - years (female - male)</i>	<i>Male</i>	<i>Female</i>	<i>Percentage difference</i>	<i>Absolute difference - years (female - male)</i>
World	45.4	48.3	6.5	3.0	68.3	72.7	6.5	4.5
More developed regions	62.1	67.2	8.2	5.1	75.1	81.5	8.5	6.4
Less developed regions	40.6	42.5	4.6	1.9	66.9	70.7	5.6	3.7
Least developed countries	35.0	37.4	6.9	2.4	60.7	63.6	4.7	2.9
Other less developed countries	41.5	43.3	4.3	1.8	68.3	72.1	5.6	3.8
Africa	36.2	38.5	6.5	2.3	58.2	60.9	4.7	2.7
Asia	41.3	43.0	4.1	1.7	69.7	73.6	5.5	3.8
Europe	60.9	66.1	8.5	5.2	73.4	80.6	9.7	7.1
Latin America and the Caribbean	49.5	53.0	6.9	3.4	71.2	77.9	9.4	6.7
Northern America	65.8	71.7	8.9	5.8	76.8	81.5	6.1	4.7
Oceania	58.1	63.1	8.5	4.9	75.3	79.7	5.9	4.4

Among the world's regions, the sex difference in life expectancy in 2010-2015 ranged from 2.7 years (or 4.7 per cent) in Africa to 7.1 years (or 9.7 per cent) in Europe. In the more developed regions, the sex gap was bigger in Europe (7.1 years or 11.3 per cent) than in Northern America (4.7 years or 6.1 per cent) largely due to a wider sex difference in Eastern Europe compared to other European regions. Latin America and the Caribbean had the largest female advantage in life expectancy (6.7 years or 9.4 per cent) among the major areas in the less developed regions. The relatively small female advantage in Africa in 2010-2015 is mainly a consequence of the differential impact of the HIV/AIDS epidemic on mortality levels by sex, with HIV prevalence estimated to be higher among women than among men.

4. Countries with the highest and lowest life expectancies

Table I.4 shows the countries with the highest and the lowest life expectancies at birth in different periods. The ten countries with the highest life expectancies in the current period, in 2010-2015, had life expectancy of 81.6 or higher for both sexes combined. All of these countries are located in the more developed regions. Presently, Japan had the highest life expectancy in the world, at 83.3 years for 2010-2015.

The ten countries with lowest life expectancies in 2010-2015 had values ranging from 49.2 to 54.7 years. While these levels of life expectancy are some 20 years higher than the lowest values found in the 1950s, they are more than 20 years lower than the highest life expectancy levels found in the current period. Most of the countries in the list of lowest life expectancies are affected by challenges such as HIV/AIDS or conflict.

Table I.4. Ten countries and areas with the highest and ten countries and areas with the lowest life expectancy at birth, by development region, 2010-2015

<i>Rank</i>	<i>Country or area</i>	<i>Life expectancy (years)</i>	<i>Rank</i>	<i>Country or area</i>	<i>Life expectancy (years)</i>
<i>A. More developed regions</i>					
<i>Highest life expectancy at birth</i>			<i>Lowest life expectancy at birth</i>		
1.	Japan	83.3	1.	Russian Federation	69.8
2.	Italy	82.8	2.	Ukraine	70.7
3.	Switzerland	82.7	3.	Belarus	71.1
4.	Iceland	82.3	4.	Republic of Moldova	71.3
5.	Spain	82.3	5.	Lithuania	73.1
6.	Australia	82.1	6.	Latvia	73.9
7.	Sweden	81.9	7.	Bulgaria	74.0
8.	France	81.8	8.	Romania	74.5
9.	Canada	81.8	9.	Serbia	74.6
10.	New Zealand	81.6	10.	Hungary	75.0
<i>B. Less developed regions</i>					
<i>Highest life expectancy at birth</i>			<i>Lowest life expectancy at birth</i>		
1.	China, Hong Kong SAR	83.7	1.	Swaziland	49.2
2.	Singapore	82.6	2.	Lesotho	49.5
3.	Israel	82.1	3.	Central African Republic	49.5
4.	Republic of Korea	81.4	4.	Sierra Leone	50.2
5.	Martinique	81.2	5.	Côte d'Ivoire	51.0
6.	Chile	81.2	6.	Chad	51.1
7.	Guadeloupe	80.5	7.	Angola	51.7
8.	China, Macao SAR	80.3	8.	Nigeria	52.3
	United States Virgin Islands				
9.		80.0	9.	Mozambique	54.6
10.	Cyprus	79.9	10.	Guinea-Bissau	54.7

C. CHILD MORTALITY

Infant mortality is measured as the probability of dying between birth and age 1, while under-five mortality is measured as the probability of dying between birth and age 5. Both measures are important to reflect children's well-being and socioeconomic development. Under-five mortality, in particular, is a closely monitored public health indicator and its reduction by two-thirds between 1990 and 2015 is the central target of Millennium Development Goal 4 of the United Nations Millennium Declaration. More recently, in the 2030 agenda for sustainable development just adopted, the second target of Goal 3 is to reduce under-five mortality to at least as low as 25 per 1,000 live births by 2030.

1. Under-five mortality

Estimates of under-five mortality for the world, development groups and major areas are provided in table I.5 for 1990-1995 and 2010-2015, and for all countries or areas in table A2. Worldwide, under-five mortality fell by 45 per cent between 1990-1995 and 2010-2015, dropping from 91 deaths per 1,000 live births to 50 deaths per 1,000 live births. . In 2010-2015, the probability of dying between birth and age 5 in the less developed regions was 54 per 1,000, which is more than nine times as high as in the more developed regions, where it was only 6 per 1,000. During the most recent period, the least developed countries experienced a higher level of under-five mortality, 86 per 1,000 live births. Among other countries of the less developed countries, the risk of dying before age five was 45 per 1,000 live births, slightly more than half the level of the least developed countries,. Within the less developed regions, Asia has experienced the most rapid reduction in child mortality which fell by around 53 per cent between 1990-1995 and 2010-2015. The pace of decline in under-five mortality was slower, just under 32 per cent in Oceania. Africa experienced an intermediate pace of decline with the under-five mortality rate falling by 46 per cent between 1990-1995 and 2010-2015.

Table I.5. Under-five mortality rate by development group and major area, 1990-1995 and 2010-2015

<i>Development group or major area</i>	<i>Under-five mortality (deaths under age 5 per 1,000 live births) - Both sexes combined -</i>		<i>Absolute change</i>	<i>Percentage change</i>
	<i>1990-1995</i>	<i>2010-2015</i>	<i>1990-1995 to 2010-2015</i>	
World	91	50	41	45
More developed regions	13	6	7	51
Less developed regions	100	54	45	46
Least developed countries	172	86	87	50
Other less developed countries	83	45	38	46
Africa	167	90	77	46
Asia	83	39	44	53
Europe	15	6	9	58
Latin America and the Caribbean	49	26	23	47
Northern America	10	7	3	34
Oceania	38	26	12	32

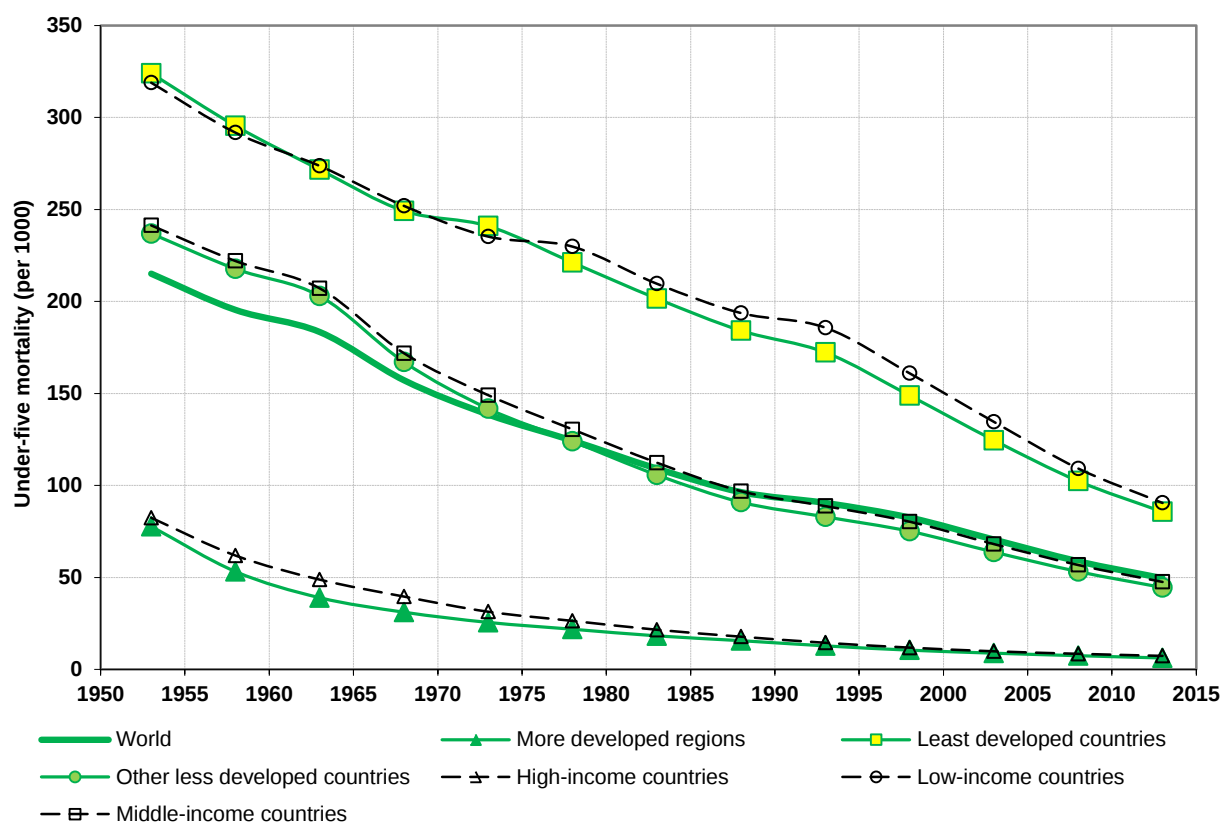
Table I.6 indicates the countries with the highest and the lowest under-five mortality in different periods. The ten countries and areas with lowest under-five mortality in 2010-2015 had values ranging from 2.0 to 3.3 deaths per 1000 births. All of these countries and areas are in the more developed regions. The ten countries with the highest under-five mortality in the current period, 2010-2015, had under-five mortality of 122.2 deaths per 1000 births or higher for both sexes combined. Except Nigeria, all of these countries are least developed countries.

Table I.6. Ten countries and areas with the highest and lowest under-five mortality, in 1990-1995 and 2010-2015

<i>Rank</i>	<i>Country or area</i>	<i>Under-five mortality (per 1000)</i>	<i>Rank</i>	<i>Country or area</i>	<i>Under-five mortality (per 1000)</i>
<i>1990-1995</i>					
<i>Highest under-five mortality</i>			<i>Lowest under-five mortality</i>		
1.	Rwanda	466.4	1.	Singapore	5.8
2.	Niger	293.2	2.	Iceland	5.9
3.	Sierra Leone	272.8	3.	Finland	6.1
4.	Angola	253.4	4.	Japan	6.1
5.	Mali	246.3	5.	Sweden	6.3
6.	Liberia	233.6	6.	China, Hong Kong SAR	6.9
7.	Mozambique	228.7	7.	Norway	7.3
8.	Somalia	221.9	8.	Switzerland	7.5
9.	South Sudan	219.5	9.	Netherlands	7.6
10.	Guinea	215.9	10.	Canada	7.6
<i>2010-2015</i>					
<i>Highest under-five mortality</i>			<i>Lowest under-five mortality</i>		
1.	Angola	155.7	1.	Luxembourg	2.0
2.	Chad	155.0	2.	Singapore	2.3
3.	Guinea-Bissau	151.8	3.	China, Hong Kong SAR	2.6
4.	Central African Republic	150.7	4.	Iceland	2.6
5.	Sierra Leone	134.2	5.	Italy	2.7
6.	Somalia	131.2	6.	Finland	2.9
7.	Burundi	123.2	7.	Norway	3.0
8.	Mali	122.5	8.	Japan	3.0
9.	South Sudan	122.3	9.	Czech Republic	3.1
10.	Nigeria	122.2	10.	Sweden	3.3

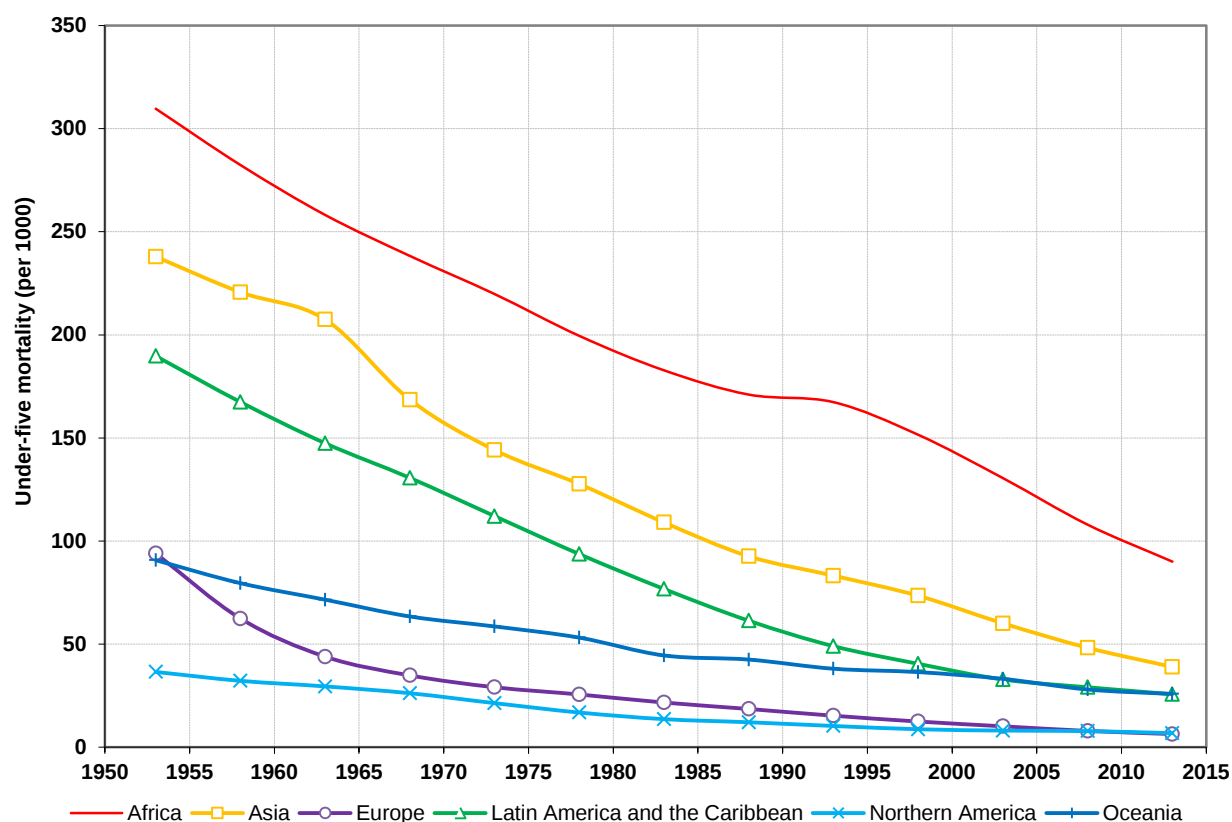
Looking back at the longer period 1950-2015, worldwide under-five mortality fell by 77 per cent. The more developed regions experienced the fastest decline (92 per cent); while in the least developed countries the decline was the slowest, about 73 per cent (figure 1.4). The overall level and trend worldwide as shown on Figure I.4 for the world is more similar to that of the other less developed regions, indicating that the childhood deaths of the latter are more than that of the more developed regions and the least developed countries. Between 1950-1995 and 2010-2015, the biggest decline in childhood deaths was in the other less developed regions (57.4 million), followed by more developed regions (6.8 million), and the least developed countries (2.8 million).

Figure I.4. Under-five mortality by development group, 1950-2015



Within the regions in 1950-2015 (figure I.5), the decline in under-five mortality in Europe was the most rapid (93 per cent), followed by Latin America and the Caribbean (86 per cent), Asia (84 per cent), North America (82 per cent), Oceania (72 per cent); and Africa (71 per cent). Between 1950-1955 and 2010-2015, the biggest decline of childhood deaths, however, was not in Europe but Asia (55.8 million), followed by Latin America and the Caribbean (5.7 million), Europe (5.3 million), North America (0.7 million), and Oceania (0.1 million). Despite the decline (71 per cent) in under-five mortality accompanied by a decline in average number of children per woman (29 per cent) from 6.6 to 4.7, in Africa the number of childhood deaths increased by 0.5 million due to population growth and the increase in the total number of births during this period.

Figure I.5 Under-five mortality by major area, 1950-2015



Worldwide, the average annual rate of decline in under-five mortality is 2.5 per cent between 1950 and 2015. While since 1990-2015, this rate raised to 3.0 per cent. The ambitious Millennium Development Goal 4 target of a two-thirds reduction in under-five mortality between 1990 and 2015 has not been reached at the global scale, it remarkably accelerated the reduction of childhood mortality.

2. Infant mortality

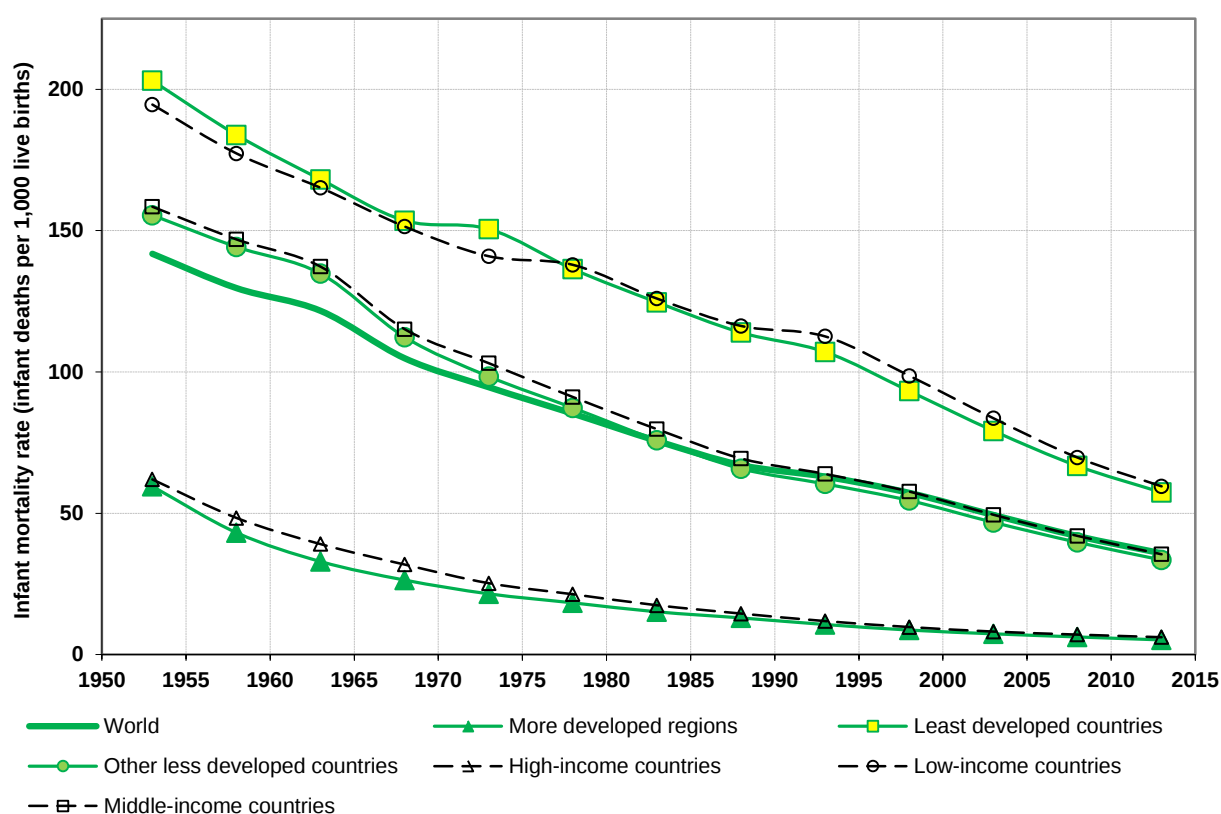
Infant mortality rate (IMR) refers to the deaths before age 1 per 1,000 births (see table A3 for estimates for all countries or areas). For the world as a whole, the IMR fell from 142 in 1950-1955 to 36 in 2010-2015, a reduction of 75 per cent (table I.7 and figure I.6).

Infant survival in the less developed regions lags behind the situation observed in more developed regions, and the chances of surviving to the first birthday are especially low in the least developed countries. In the more developed regions, IMR fell from 60 per 1,000 births in 1950-1955 to 5 per 1,000 births in 2010-2015, a decline of 91 per cent, while in the less developed regions IMR declined by 76 per cent, from 161 to 39. Progress was the slowest in the least developed countries where the IMR fell from 203 per 1,000 births in 1950-1955 to 57 per 1,000 births in 2010-2015, a decline of 72 per cent.

Table I.7. Infant mortality rates by development group and major area, 1950-1955 and 2010-2015

Development group or major area	Infant mortality rate (infant deaths per 1,000 live births) - Both sexes combined -		Absolute change	Percentage change
	1950-1955	2010-2015		
World	142	36	106	75
More developed regions	60	5	54	91
Less developed regions	161	39	122	76
Least developed countries	203	57	146	72
Other less developed countries	155	33	122	78
Africa	187	59	128	69
Asia	157	31	126	80
Europe	72	5	67	93
Latin America and the Caribbean	127	20	107	84
Northern America	31	6	25	81
Oceania	60	20	40	66

Figure I.6. Infant mortality rate by development group, 1950-2015



Of the world's regions, Africa has seen the slowest progress in lowering infant mortality (figure I.6), with a decline of 69 per cent between 1950-1955 and 2010-2015, compared to 75 per cent for the world. In Africa, an estimated 59 out of 1,000 babies born during 2010-2015 will die

before their first birthdays. Asia achieved an 80 per cent reduction in infant mortality since 1950-1955 and the progress is expected to continue. Among the less developed regions, Latin America and the Caribbean had the lowest IMR, falling from 127 in 1950-1955 to 20 in 2010-2015. In Europe and Northern America, IMR was the lowest, below 7 in 2010-2015.

D. ADULT MORTALITY

Following the decline of child mortality, the importance of mortality at adult ages (15 to 59 years) is increasing. Although death registration systems in some countries shed light on the risks of mortality experienced at various ages, valid measures of adult mortality are not yet available throughout many countries of the less developed regions where such systems are not yet in place. When possible, other sources of information have been incorporated, such as mortality rates estimated from surveys and censuses. Despite these efforts, for several developing countries, the levels and trends of adult mortality described in this report are derived from child mortality and a model life table age pattern of mortality, rather than an empirical observation of adult deaths and populations. Therefore, many of the regional trends and differences in adult mortality mirror closely those described for childhood mortality. With this in mind, the discussion below is focused on regional patterns in the levels of adult mortality estimated for the most recent period, 2010-2015.

1. Mortality between ages 15 and 59

To assess adult mortality, this report uses the probability of dying between exact ages 15 and 60 years, denoted as $_{45}q_{15}$ (see estimates for all countries or areas in table A4). In 2010-2015 the value of $_{45}q_{15}$ for the world (both sexes combined) is estimated at 153, indicating that 153 out of 1,000 15-year-olds were expected to die before age 60. This measure is particularly relevant for health policy in that it captures the risks of mortality affecting young and middle-aged adults, most of whose deaths are considered to be “preventable”, such as through changes in risk behaviours (for example, tobacco use) or through medical intervention (for example, early detection and treatment of cervical cancer).

Just as child survival is highly correlated with the level of development, so is adult mortality. In the less developed regions, the risk of dying between ages 15 and 60 has been much higher than in the more developed regions. In 2010-2015, the probability that a 15-year-old in the less developed regions died before age 60 was 161 per 1,000 (table I.8), which was 30 per cent higher than in the more developed regions, where the risk of dying between ages 15 and 60 was 112 per 1,000. The least developed countries are particularly disadvantaged in terms of adult survival, with 240 per 1,000, or 24 per cent of 15-year-olds estimated to die before age 60.

Among the more developed regions, $_{45}q_{15}$ in 2010-2015 stood at 102 per 1,000 in Northern America and 126 per 1,000 in Europe. Notably, despite the relatively high level of development, the level of $_{45}q_{15}$ in Europe was only slightly below the levels in Asia and Latin America and the Caribbean (136 per 1,000 and 138 per 1,000, respectively). The European average was pulled downward by the relatively high adult mortality in Eastern Europe, especially among men. Among the less developed regions, Africa had the highest level of adult mortality, with a $_{45}q_{15}$ of

285 per 1,000 in 2010-2015. In some countries, the HIV/AIDS epidemic stalled or reversed progress in adult survival, pushing up the average $_{45}q_{15}$ for the region.

Table I.8. Adult mortality rate* by sex, development group, and major area, 2010-2015

Development group or major area	Probability of dying between age 15 and 60 ($_{45}q_{15}$) (deaths under age 60 per 1,000 alive at age 15)			Ratio Male/ Female
	Both sexes	Male	Female	
World	153	182	122	1.5
More developed regions	112	152	72	2.1
Less developed regions	161	188	133	1.4
Least developed countries	240	263	217	1.2
Other less developed countries	151	178	121	1.5
Africa	285	308	263	1.2
Asia	136	163	108	1.5
Europe	126	176	75	2.3
Latin America and the Caribbean	138	180	95	1.9
Northern America	102	127	76	1.7
Oceania	103	123	83	1.5

* Conditional probability of dying between exact ages 15 and 60 years.

2. Sex differences in adult mortality

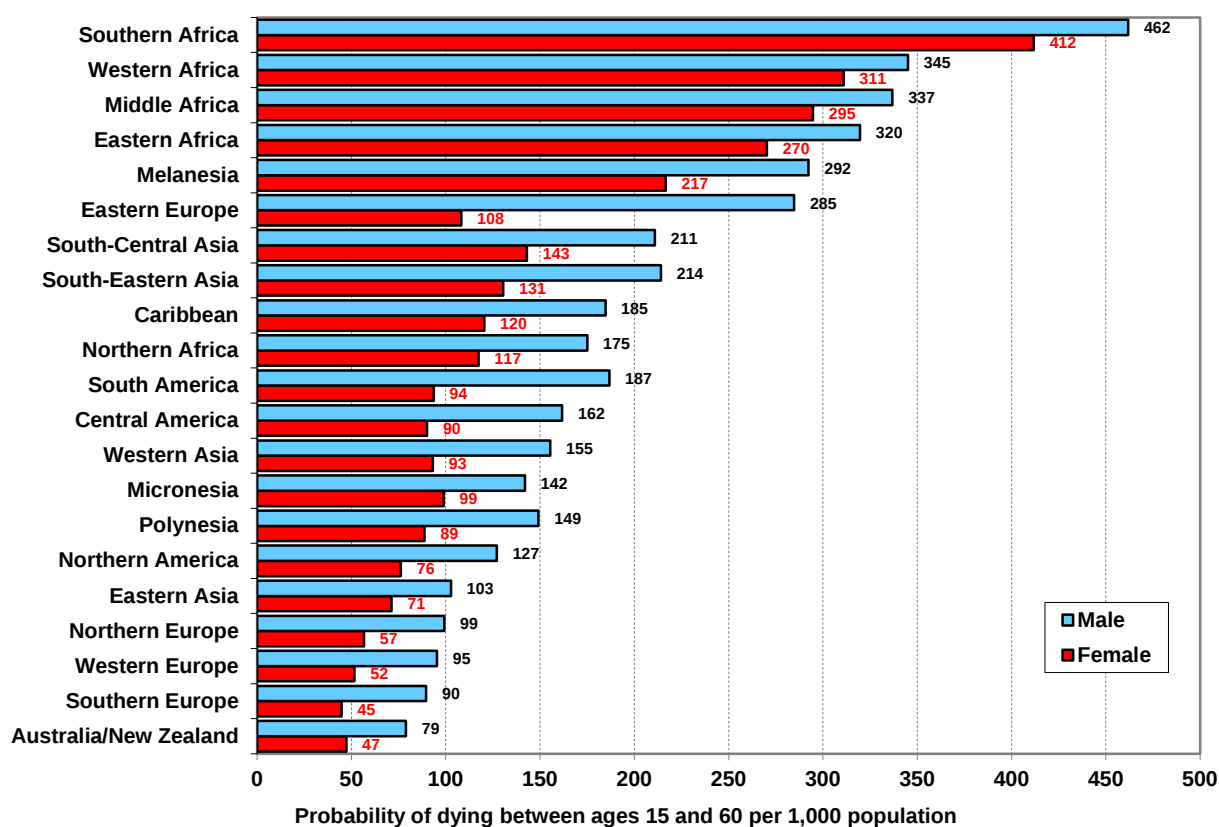
At the world level the male-to-female ratio of $_{45}q_{15}$ was 1.5 in 2010-2015 (table 1.8), meaning that men were 50 per cent more likely to die between the ages of 15 and 60 than women. In the more developed regions, particularly in Europe, men were more than twice as likely to die between these ages. Among the less developed regions, the sex differential in $_{45}q_{15}$ in Latin America and the Caribbean (1.9 in 2010-2015) was wider than the differentials in other major areas. In Asia and Africa, the male-to-female ratios in $_{45}q_{15}$ were estimated to be substantially lower, at 1.2 for Asia and 1.2 for Africa in 2010-2015. HIV/AIDS reduced women's survival advantage in Africa, where more women than men were estimated to have HIV, and was largely responsible for the relatively low sex ratio in adult mortality in the region.

The assessment of sex differences in $_{45}q_{15}$ across major areas can mask even greater heterogeneity that exists across smaller geographic regions. To shed light on that variability, figure 1.7 presents adult mortality rates by sex for the 21 regions of the world in 2010-2015. The highest levels of adult mortality for both males and females were estimated to occur in the four regions that constitute sub-Saharan Africa (Eastern, Middle, Southern and Western Africa). Southern Africa had the highest adult mortality levels in the world, where 462 and 412 per 1,000 men and women, respectively, were expected to die between the ages of 15 and 60. Southern Africa is also the region of the world most affected by HIV/AIDS, which has amplified adult mortality risks in the region. Across Africa's five regions, Northern Africa had the lowest levels of adult mortality, with $_{45}q_{15}$ estimated at 175 and 117 per 1,000, respectively, for males and females.

At the opposite end of the spectrum, Australia and New Zealand, Northern, Southern and Western Europe, as well as Northern America were among the regions with the lowest levels of adult mortality in the world. As noted above, the European average was heavily influenced by relatively high adult mortality in Eastern Europe, where $_{45}q_{15}$ for both sexes combined stood at 197 per 1,000 in 2010-2015 (data not shown), higher than the average for less developed regions.

Male adult mortality was higher than female adult mortality in all regions of the world. Overall, the magnitude in the differences in adult mortality by sex varied considerably across regions. Within the more developed regions, males in Eastern Europe had exceptionally high adult mortality, at the level of 285 per 1,000. As a consequence, Eastern Europe had the largest sex differential in adult mortality of any world region, with a male-to-female ratio of 2.6. Southern Europe was the only other region with a male-to-female ratio above 2, though unlike Eastern Europe where the high ratio resulted from male mortality that was exceptionally high, Southern Europe's high ratio was attributable mainly to relatively low female mortality.

Figure I.7. Adult mortality rate ($_{45}q_{15}$) by sex and region*, 2010-2015



* Sorted by the level of mortality for both sexes combined.

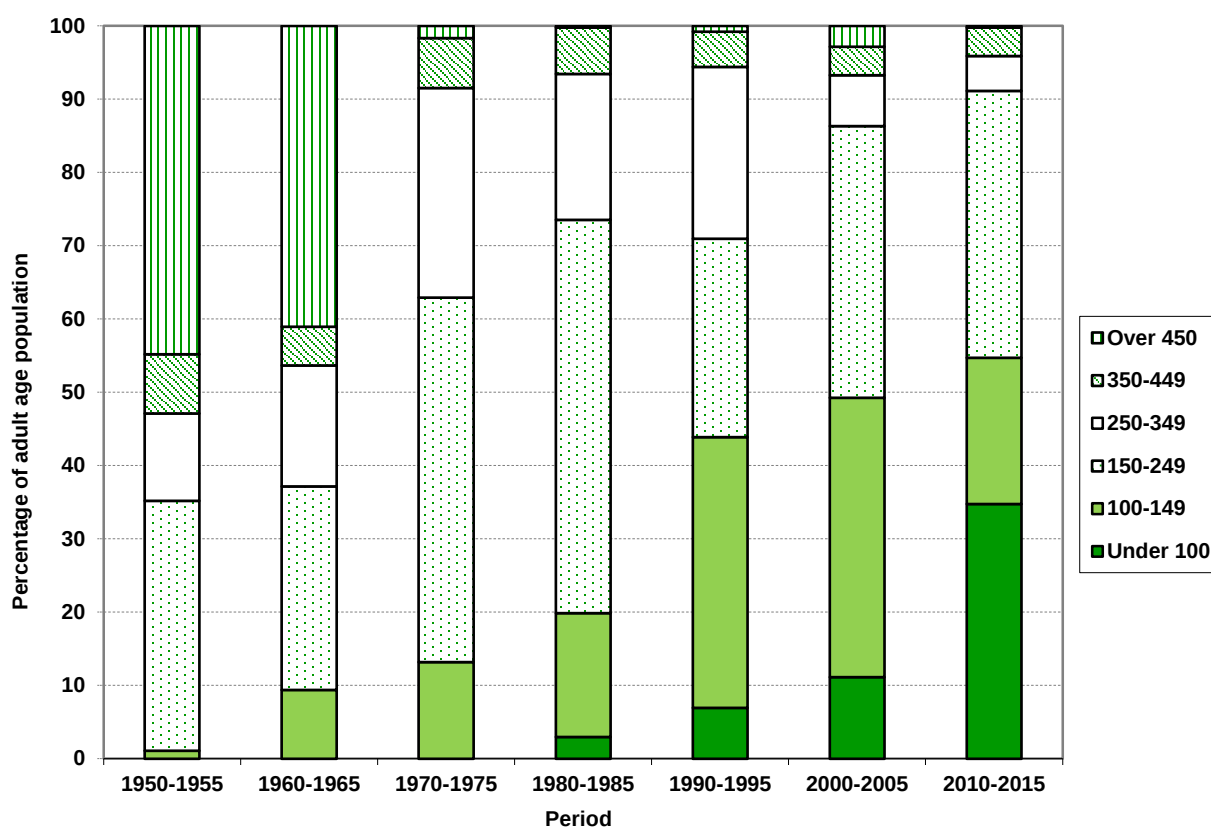
3. Distribution of adult age population by the level of adult mortality

Table I.9 and Figure I.8 indicates the changing proportions of the world's population in adult ages according to the level of adult mortality since 1950. In 1950-1955, no country had an adult mortality lower than 100. In 2010-2015, 35 per cent of adult age population lived in countries with adult mortality lower than 100.

Table I.9. Distribution of the global 15-59 years old population by the level of adult mortality in a person's country or area of residence, 1950-1955 to 2010-2015

Adult mortality	Population by the level of adult mortality (45q15) per 1,000 alive at age 15						
	1950-1955	1960-1965	1970-1975	1980-1985	1990-1995	2000-2005	2010-2015
Total population (in billion)							
Under 100	0.000	0.000	0.000	0.074	0.215	0.409	1.500
100-149	0.016	0.156	0.264	0.421	1.138	1.401	0.861
150-249	0.497	0.461	0.992	1.336	0.835	1.360	1.570
250-349	0.173	0.275	0.571	0.496	0.722	0.256	0.205
350-449	0.118	0.088	0.136	0.157	0.148	0.142	0.168
Over 450	0.652	0.682	0.033	0.006	0.024	0.104	0.009
Percentage distribution							
Under 100	0.0	0.0	0.0	3.0	7.0	11.1	34.8
100-149	1.1	9.4	13.2	16.9	36.9	38.1	20.0
150-249	34.1	27.8	49.7	53.6	27.1	37.0	36.4
250-349	11.9	16.5	28.6	19.9	23.4	7.0	4.8
350-449	8.1	5.3	6.8	6.3	4.8	3.9	3.9
Over 450	44.8	41.0	1.6	0.2	0.8	2.8	0.2

Figure I.8. Distribution of the global 15-59 years old population by the level of adult mortality in a person's country or area of residence, 1950-1955 to 2010-2015



At the other end of the spectrum, in 1950-1955 45 per cent of adult age population lived in countries where adult mortality was 450 and higher. In 2010-2015, the proportion of adult age population living in countries with adult mortality higher than 450 had reduced to 0.2 per cent. This decline was significant, but not smooth. As can be seen in figure I.8, the proportion of adult age population living in countries with adult mortality higher than 450 increased in the 1990s.

More specifically, in 1980-1985 only 4 countries had an adult mortality higher than 450: Eritrea, Timor-Leste, South Sudan, and Sierra Leone. In 2000-2005, however, the number of countries with an adult mortality higher than 450 increased to 14; and all these countries are in Sub-Saharan Africa: Zimbabwe, Lesotho, Botswana, Swaziland, Malawi, Zambia, South Africa, Central African Republic, Sierra Leone, Namibia, Uganda, Kenya, Côte d'Ivoire, and the United Republic of Tanzania. This increase was mainly the consequence of the HIV/AIDS epidemic.

E. OLD AGE MORTALITY

As mortality at childhood and adult ages declines, the proportion of deaths at old ages (60 and over) naturally increases. Thus, it is important to better understand the mortality levels and patterns at old ages, which is measured by the life expectancy at age 60 in this report (see estimates for all countries or areas in table A6). To accurately calculate life expectancy at age 60, death rates at ages older than 60 are needed. Unfortunately, death registrations by age are unavailable in many countries in the less developed regions. Moreover, surveys that collect information on old-age deaths are rare. For many countries in the less developed regions, the levels and trends of life expectancy at age 60 in this report are derived from child mortality, and sometimes combined with adult mortality as well, according to a model life table age pattern of mortality. For this reason, the discussion below is focused on regional patterns in the levels of old-age mortality estimated for the most recent period, 2010-2015.

1. Life expectancy at age 60

Life expectancy at age 60, denoted as e_{60} , indicates the average number of additional years one is expected to live once having reached age 60. In 2010-2015, e_{60} is estimated at 20.2 years for the world (table I.10), indicating that given the mortality rates prevailing over that period, on average, a person aged 60 could expect to live another 20.2 years, to reach age 80.2.

Differences by sex or location in survival at more advanced ages, after age 60, follow a pattern that is similar to the differences observed at younger ages. In the less developed regions, persons aged 60 in 2010-2015 are estimated to have, on average, an additional 18.9 years to live, compared to 22.8 years in the more developed regions. Older people in the least developed countries are the most disadvantaged in terms of survival, with 60-year-olds expected to live an average of 17.3 additional years. In Africa, survival prospects at older ages lag behind those of other regions: with an e_{60} of 16.7 years, 60-year olds in Africa have 7 fewer years of life remaining relative to their peers in Oceania, where an e_{60} of 23.7 years is the highest worldwide.

Table I.10. Life expectancy at age 60, by sex, development group and major area, 2010-2015

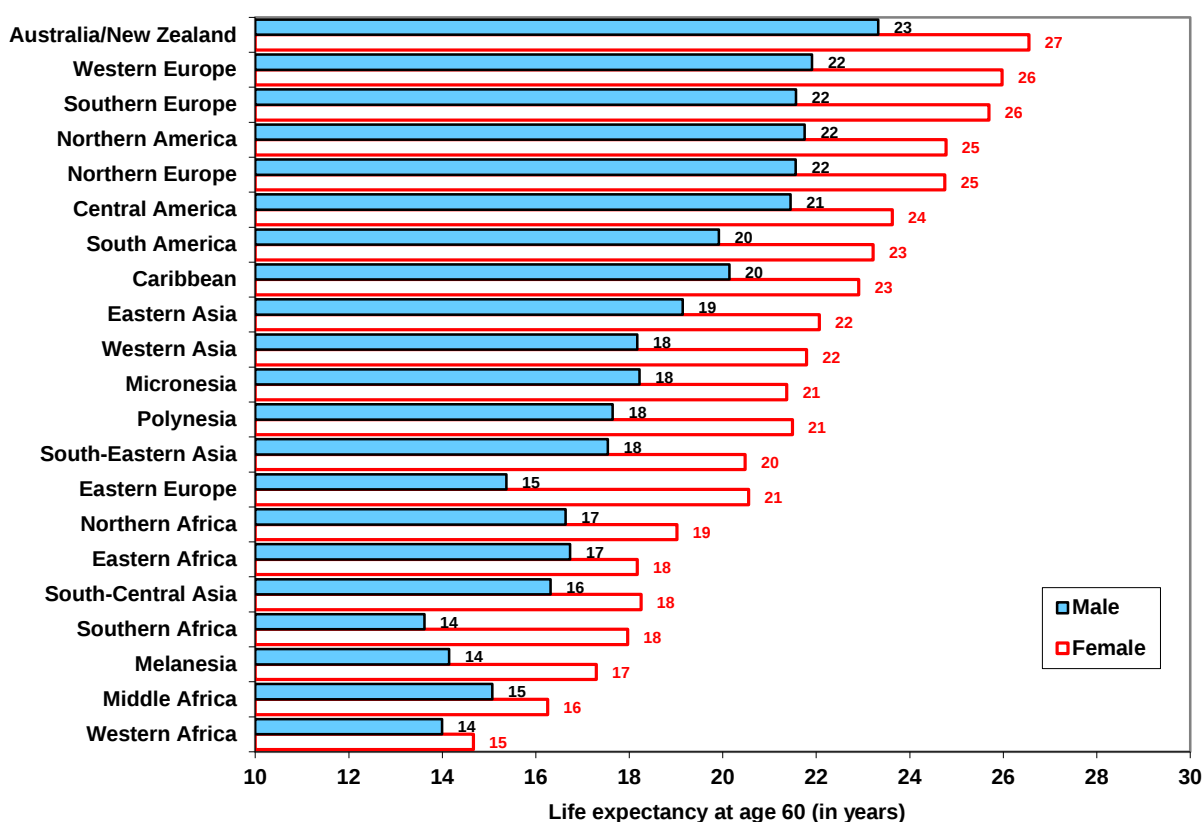
<i>Development group or major area</i>	Life expectancy at age 60 (years)			
	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>	<i>Absolute difference - years (female - male)</i>
World	20.2	18.7	21.5	2.8
More developed regions	22.8	20.8	24.6	3.8
Less developed regions	18.9	17.8	20.0	2.2
Least developed countries	17.3	16.7	17.8	1.2
Other less developed countries	19.1	17.9	20.2	2.3
Africa	16.7	15.9	17.4	1.5
Asia	19.4	18.1	20.6	2.5
Europe	21.9	19.8	23.8	4.0
Latin America and the Caribbean	21.8	20.1	23.3	3.3
Northern America	23.5	21.9	24.9	3.0
Oceania	23.7	22.1	25.2	3.1

2. Sex differences in life expectancy at age 60

At more advanced ages, on average, women at older ages outlive their male counterparts in all regions of the world. Worldwide, in 2010-2015, a 60-year-old woman was expected to live, on average, 2.8 years longer than a 60-year-old man (table I.10). The female advantage in survival at old age is the greatest in the more developed regions, where the sex difference in e_{60} is estimated at 3.8 years, and smallest among the least developed countries, where it is estimated at 1.2 years. Across the world's regions, the female advantage in survival beyond age 60 is the greatest in Europe, with women expected to live more than 4 years longer on average than men, and smallest in Africa, with women at older ages expected to outlive their male counterparts by less than 1.5 years on average.

The gender differences in e_{60} across major areas were even greater. To indicate the variability, figure 1.9 presents e_{60} by sex for the 21 regions of the world in 2010-2015. The lowest levels of e_{60} for both sexes are estimated to occur in the two regions of sub-Saharan Africa (Middle and Western Africa). Western Africa had the lowest levels of e_{60} in the world, where men and women aged 60, respectively, were expected to live 14.1 and 14.7 years. Across Africa's five regions, Northern Africa had the highest levels of e_{60} , which are estimated as 17.6 and 19.5 years, respectively, for males and females.

Figure 1.9. Life expectancy at age 60 by sex and region, 2010-2015



At the opposite end of the spectrum, Australia-New Zealand, Northern, Southern and Western Europe, as well as Northern America are among the regions with the highest levels of e_{60} in the world. As noted above, the European average is heavily influenced by relatively low levels in Eastern Europe, where e_{60} for both sexes combined stood at 19 years in 2010-2015 (data not shown), and corresponded to the average for less developed regions.

Male e_{60} is lower than female e_{60} in all regions of the world. Overall, the magnitude of the differences in old-age mortality risks by sex varies considerably across regions. Within the more developed regions, males in Eastern Europe have exceptionally low e_{60} , 16.2 years. As a consequence, Eastern Europe has the largest sex differential in e_{60} of any world region, with a difference of 5 years. Southern Africa and Southern Europe are the only other regions with a sex differential above 4 years. In contrast to Southern Africa where the high differential is result of exceptionally low male e_{60} (13.7 years), Southern Europe's high differential is mainly attributable to relatively high female e_{60} (25.9 years).

3. Distribution of old age population by the level of life expectancy at age 60

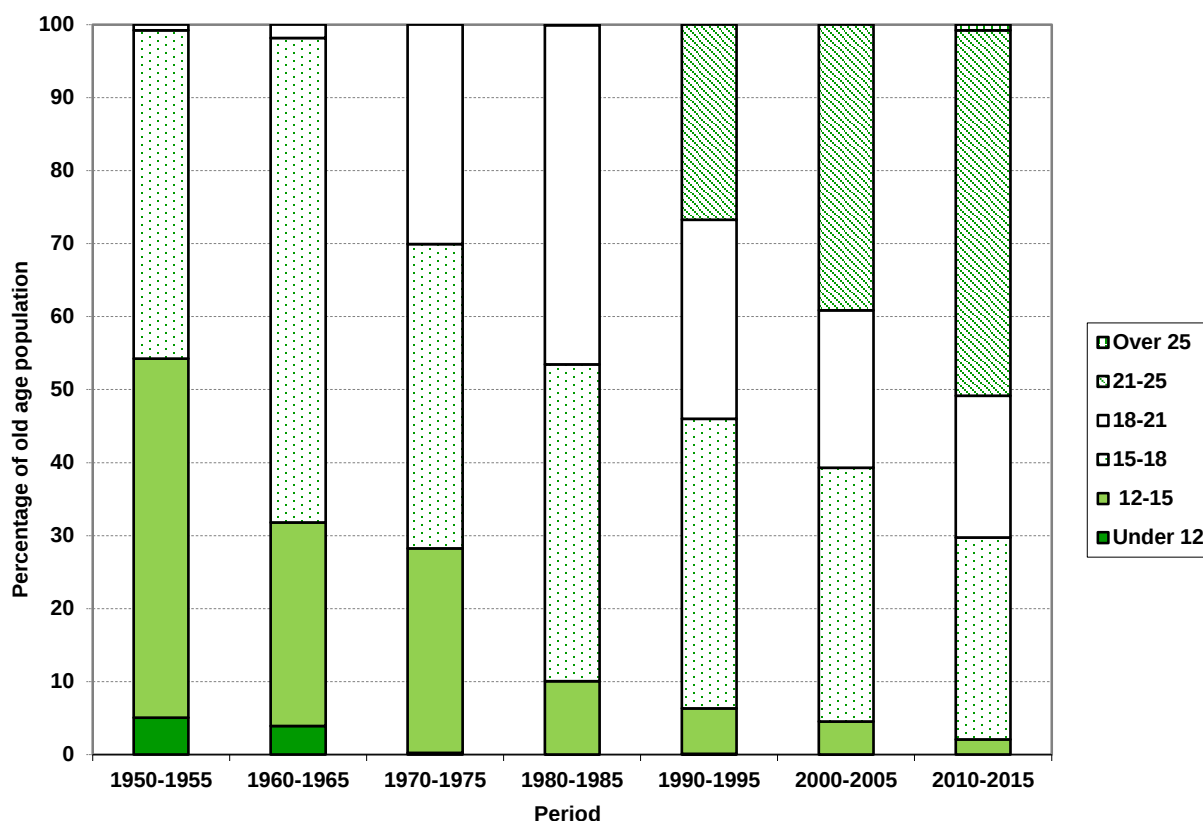
The proportions of the world's population aged 60 years or older by the level of e_{60} since 1950 are depicted in Table I.11 and Figure I.10. In 1950-1955, 54.2 per cent of old age population lived in countries where e_{60} was lower than 15 years. In 2010-2015, only 2.1 per cent

of old age population lived in countries where e_{60} was lower than 15 years. The decline is significant and smooth.

Table I.11. Distribution of the global population aged 60 years or older by the level of life expectancy at age 60 in a person's country or area of residence, 1950-1955 to 2010-2015

Life expectancy at age 60	Population by the level of life expectancy at age 60 (in years)						
	1950-1955	1960-1965	1970-1975	1980-1985	1990-1995	2000-2005	2010-2015
Total population (in billion)							
Under 12	0.006	0.005	0.000	0.000	0.000	0.000	0.000
12-15	0.054	0.035	0.041	0.018	0.013	0.011	0.006
15-18	0.050	0.082	0.061	0.076	0.083	0.083	0.081
18-21	0.001	0.002	0.044	0.081	0.057	0.052	0.057
21-25	0.000	0.000	0.000	0.000	0.056	0.094	0.147
Over 25	0.000	0.000	0.000	0.000	0.000	0.000	0.002
Percentage distribution							
Under 12	5.0	3.9	0.2	0.0	0.1	0.0	0.0
12-15	49.2	27.9	28.0	10.0	6.3	4.5	2.1
15-18	45.0	66.4	41.7	43.4	39.7	34.7	27.6
18-21	0.8	1.8	30.1	46.5	27.3	21.6	19.4
21-25	0.0	0.0	0.0	0.1	26.7	39.2	50.1
Over 25	0.0	0.0	0.0	0.0	0.0	0.0	0.8

Figure I. 10. Distribution of the global population aged 60 years or older by the level of life expectancy at age 60 in a person's country or area of residence, 1950-1955 to 2010-2015



On the other hand, before 2005-2010 no country had an e_{60} higher than 25 years. In 2005-2010, this upper limit for e_{60} was broken by Japan where those alive at age 60 have been living on average more than 25 years after age 60. In 2010-2015, about 0.8 per cent of old age population lived in 7 countries or areas with e_0 over 25, which have reliable data and are: Japan, China Hong Kong SAR, Chile, France, Italy, Singapore, and Switzerland.

F. CONCLUSIONS

Socioeconomic development at certain stages will cause the demographic transition, in which mortality and fertility decline from high to low levels. The countries of the more developed regions initiated their transitions first, when mortality began to decline rapidly, especially among children, in the late-nineteenth century. Today 45 countries and areas, mostly in the more developed regions, enjoy life expectancies at birth that are unprecedented in human history – higher than 80 years. While the countries of the less developed regions initiated their demographic transitions later than the more developed regions, 9 countries and areas have also reached life expectancies at birth higher than 80 years. Numerous other countries of the less developed regions are today progressing quickly through their transitions, with falling mortality rates among both children and adults producing rapid improvements in life expectancy. However, many populations of the less developed regions, especially the least developed countries, remain in the early stages of their transitions. In 2010-2015, three countries still had their life expectancy below 50 years: Central African Republic, Lesotho, and Swaziland.

In the early stages of demographic transition, mortality decline occurs mainly among children. The high infant and child mortality rates are largely attributable to persistent high incidence and fatality of communicable diseases; and reducing mortality depends largely on improvements of the sanitation, nutrition and health discoveries such as vaccines to reduce mortality from communicable diseases. Between 1990 and 2015, the under-five mortality of the least developed countries declined by 50 per cent, bigger than the 45 per cent of the world's average. Among the less developed regions, Asia experienced the most rapid improvement in child survival since 1990, about 53 per cent. The pace of decline in under-five mortality in Oceania was slower, about 32 per cent. Africa experienced an intermediate pace of decline with the under-five mortality rate falling by 46 per cent between 1990-1995 and 2010-2015. In 2010-2015, under-five mortality in the least developed countries was about 86 per 1,000, while in the other less developed regions and the more developed regions were 45 and 6 per 1,000, respectively.

In the advanced stages of the demographic transition, there are not much room for child mortality to further decline substantially, and more people survive to adult and old ages. As a consequence, further mortality decline are concentrated mainly at adult and old ages, and depends largely on reducing the effects of the non-communicable diseases.

Just as child survival is highly correlated with the level of development, so is adult mortality. In the less developed regions the risks of dying at adult ages are much higher than those in the more developed regions. In 2010-2015, the probability that a person 15-years-old in the other less developed regions will die before age 60 was 161 per 1,000, which was 30 per cent higher than in the more developed regions, where the risk of dying between ages 15 and 60 was 112 per

1,000. The least developed countries are particularly disadvantaged in terms of adult survival, with 240 per 1,000 15-year-olds estimated to die before age 60.

Old-age mortality is measured by the life expectancy at age 60, denoted as e_{60} , in this report. In 2010-2015, e_{60} is estimated at 20.2 years for the world, indicating that on average a person aged 60 could expect to live another 20.2 years, to reach age 80.2. Differences in survival at more advanced ages, after age 60, follow a pattern similar to the differences observed at younger ages. In 2010-2015, the values of e_{60} were estimated as 18.9 years in the less developed regions, and 22.8 years in the more developed regions. Older people in the least developed countries were again most disadvantaged in terms of survival, with 60-year-olds expected to live an average of 17.3 additional years.

II. Socio economic determinants of inequalities in infant and early childhood mortality

A. INTRODUCTION

Considerable progress has been achieved on child survival during the last decades. A child born in Africa or Southern Asia in 2015 was about 25 percent more likely to celebrate his or her fifth birthday than a child born in those two regions in 1960. His or her chances of survival were even larger if he was born in Latin America, Asia or Europe. For example, a child born in Brazil or Myanmar in 2015 could expect to live 20 years longer than one born in those countries just 50 years ago (WHO, 2015a).

Despite this substantial progress, an increasing proportion of child deaths worldwide are occurring today in sub-Saharan Africa and Southern Asia due to higher levels of child mortality and to faster rates of population growth in these two regions than elsewhere.

Millennium Development Goal 4 set a target of reducing under-five mortality globally by two-thirds between 1990 and 2015. More recently, target 3.2 of the Sustainable Development Goals aims to reduce under-five mortality to no more than 25 deaths per 1,000 live births by 2030. Because of the large differences in child mortality between and within countries, overall reductions in child mortality of the magnitude envisaged in the SDGs will require designing and implementing policies to address inequalities in the health, environment and living conditions of children, especially those belonging to the most disadvantaged population groups. To maximize the effectiveness of such policies, it is important to understand the causes of existing inequalities in child health and survival, to identify critical factors of success for the policies applied to date, and to devise strategies for reducing disparities in the future.

Several factors may contribute to inequalities in child survival. As regards the major causes of death, it is estimated that more than half of under-five deaths are attributable to just a very small number of conditions, namely, pneumonia, diarrhoea, malaria, measles and HIV/AIDS (UNICEF 2015, WHO 2013). Mosley and Chen (1984), in their framework on the determinants of child health, provided a distinction between the “proximate” and the “underlying” determinants of health. The former affect children’s health directly (for example, feeding practices, preventive activities, care during pregnancy and childbirth), while the latter do so only indirectly through their impact on the proximate determinants (for example, mother’s education and knowledge, household income, access to health facilities).

Indeed, as pointed out by Wagstaff and others (2004), the causes of socioeconomic inequalities in child health are clear. A limited number of proximate determinants have been demonstrated to affect the health of children directly. These behaviours, preventive practices, and interventions, which can improve child health and reduce child deaths, are unequally distributed across socioeconomic groups. But the Mosley-Chen framework prompts the obvious next question: why do these inequalities in the proximate determinants of child health arise and persist in some countries? Why, for example, are children in the richest quintile in India three times more likely to be immunized despite the existence of a free-of-charge and ostensibly universal government immunization program (Pande and Yazbeck, 2002).

Studies of child survival have made use of many types of information and are guided by many research paradigms (Schultz, 1984). Statistical analyses of the determinants of child survival may deal with different types of observations at the regional, country and world levels. These data range from population aggregates, characteristics of systematically selected populations such as those encountered in a clinical practice, to data from representative household surveys on children and families.

Microeconomic analysis of family economic and demographic behaviour rests on the hypothesis that people allocate their time and other economic resources in response to the value of the time of each family member, the amount of the family's non-human capital endowments, and the relative prices of the family's market inputs and outputs (Schultz, 1984).

In a review of the literature on the impact of socio-economic factors on child mortality, Wagstaff and others (2004) stated that better evidence was needed to assess the impact of socioeconomic factors on child health and, most of all, a new approach to improve the health of all children was necessary. In a study comparing the impact of mother's education and household wealth, the authors concluded that mother's education was a more important determinant of child survival than household wealth.

In another study on slums and child health in developing countries, Fink and others (2012) show that a significant fraction of the observed health differences appears to be explained by pronounced differences in maternal education, household wealth, and access to health services across residential areas.

In a more recent study, Fuchs and others (2010) show that education matters more than wealth for reducing child mortality in developing countries. But this study only refers to the last child born to each woman to avoid having to estimate multi-levels models that account for clustering of children within households. This significantly limits the possibility of studying the impact of household wealth on under-five mortality.

By 2015, the target date for the Millennium Development Goals, several countries in the developing world, mostly in Africa have not reached the health indicators –only 27 countries out of 201 reduced their under-five mortality by more than two-thirds between 1990 and 2015. As the targets for the Sustainable Development Goals are now set in the area of health, it is essential to monitor progress beyond national averages and examine the situation across different households.

The goal of this chapter is to investigate the determinants of inequalities in child survival. It looks at the disparities in childhood mortality in about 50 low- and middle-income countries using the Demographic and Health Surveys (DHS). While over the years, a number of studies have been conducted to tease out the determinants of inequalities in child survival (Chalasani, 2010; Fuchs and others, 2010), these studies focused either on specific countries or presented the situation in various countries. In this study, the intention is to present the situation in various regions (Africa, Asia and Latin America and the Caribbean) as well as in the world in general by pooling the data from DHS surveys. The study will document the differentials in the impact of the determinants of socio-economic inequalities between regions if any. The study will also present the situation in individual countries to explain the regional differences if any.

B. THEORETICAL FRAMEWORK AND MAJOR HYPOTHESES

Previously, the assessment of economic inequalities in health had been hindered by the well-known difficulty of measuring income, traditionally the preferred indicator of economic status. While the gender and perhaps the race of an individual are usually rather obvious, her or his income can be much harder to assess (Gwatkin and others, 2007). With the availability of questions on assets from the Demographic and Health Surveys, the wealth index is developed with the help of the World Bank. The DHS Wealth Index was based on the assumption that an underlying continuum of economic status exists which is related to the wealth of a household (Rutstein, 2008).

What is known about the impact of household wealth and mother's education on child survival? In their influential essay, Mosley and Chen (1984) proposed a comprehensive analytical framework for studying the determinants of child survival in low-income settings. This framework is based on the idea that all social and economic determinants of child morbidity and mortality necessarily operate through a set of proximate determinants, which in turn influence the risk of disease and the outcome of disease processes (Chalasani, 2010).

In developing countries, the assets that households have acquired are a good indicator of their "long-run" economic status (Filmer and Pritchett, 1999; Bollen and others, 2002). With the assistance of the Demographic and Health Surveys programme, the World Bank has developed a tool to measure the relative economic position of households using data on durable consumer goods, housing quality, water and sanitary facilities and other amenities (Gwatkin and others, 2000). These assets are combined into an index of economic status using the method of Principal Component Analysis (PCA). The PCA method has been shown to provide a measure of economic status that has a higher predictive value, at least with regard to fertility, than other proxies such as an index based on the value of goods owned, or occupation (Houweling and others, 2003).

The wealth index is a variable that represents only economic resources. Education and occupation are left out in the calculation of the wealth index since they might interfere with the purely economic variables and potentially offset their effects (Fuchs and others, 2010).

More education leads to higher income by increasing access to higher paying employment or enabling self-employment to be more economically productive. The higher income leads to access to health-promoting resources. The link between maternal education and child health, and the tendency for poorer women to be less well educated, is one of the other key explanations of why poorer children die earlier and are less well nourished. The socioeconomic inequalities in maternal education are significant both across countries and within them (Filmer and Pritchett, 1999).

In previous studies, most analyses found that both maternal education and household economic resources within a multivariate analysis each had an independent effect on child health (Hobcraft, 1984; Heaton and others, 2005). An extensive review of available data in developing countries conducted by Mensch and colleagues in 1985 found that approximately half of the gross association between mother's education and child mortality remained after statistical control of household economic resources and/or living conditions such as dwelling characteristics, water supply, and toilet (Mensch and others, 1985). In this chapter, it is assumed that the effects of mother's education and household wealth on child health are independent of each other.

The causes of socioeconomic inequalities in child health are clear (Wagstaff, 2004). A limited number of proximate determinants have been demonstrated to affect the health of children directly. These behaviours, preventive practices, and interventions, which can improve child health and reduce child deaths, are unequally distributed across socioeconomic groups. Many studies have shown that child health is positively associated with income at both the country level (Pritchett and others, 1996; Preston, 1975) and the child-individual level (Alderman and others, 2000; Lee and others, 1997). Likewise, for the health-promoting effects of most proximate determinants, there is a positive association with higher income, including adult energy intake, likelihood of a pregnant woman receiving antenatal care, timing of antenatal consultations (Gertler and others, 1993), and likelihood of a delivery taking place away from home (Guilkey and Riphahn, 1998).

Not only is a household's total income an important factor, but the degree of a woman's control over its use matters (Wagstaff, 2004). Women who exert relatively little control over household financial resources are less likely to receive antenatal care, have fewer antenatal visits, and are less likely to have visits in the first trimester of pregnancy (Beegle and others., 2001). It is assumed that poorer women exert less control over household resources than better-off women. The evidence may be weak in this area.

While the direct causes of most child mortality are diseases that are preventable and treatable, children from poor households who might more likely be exposed to such diseases, are less likely to receive proper medical attention than children from better-off households (Victoria and others, 2003).

C. DATA AND METHODS OF ANALYSIS

The data used in this chapter are from the Demographic and Health Surveys (DHS) nationally representative population-based surveys that had historically focused on fertility and reproductive health. They also provided information on a vast array of child health outcomes and household characteristics, not only on child mortality but also on various factors that could affect child survival outcomes. In this study, about 50 DHS surveys conducted in the low- and middle-income countries (LMICs) of Africa, Asia, and Latin America and the Caribbean were analysed. The surveys carried out in Europe (for example, Albania) and other parts of the world (Oceania) were not included in the analysis because of the small number of surveys in these regions. The study also focused on the latest survey conducted in these countries covering the period 2003 to 2013. The selection of surveys was also guided by the availability of recoded microdata as of February 2015 (see supplementary table). The surveys were grouped by regions and pooled to study the differentials in the impact of household wealth by region.

One of the problems which may affect the results of the analysis and lead to misleading findings is the quality of data used. It is often argued that retrospective data are subject to recall bias. Evaluation of the DHS data showed that misreporting is more severe for children born more than 15 years before the survey. The fact that the study is limited to children born in the last five years before the survey reduced the misreporting bias.

In developing countries where data on mortality are scarce, the DHS surveys have clearly represented a breakthrough for the study of the relationship between various characteristics of the mothers and their husbands, such as education, urban or rural residence. One of the advantages of the DHS surveys is the collection of full birth histories whereas many other surveys have often collected only

summary birth histories (for example, number of children ever born and children surviving) and hence allow only a more limited form of micro analysis.

The unit of analysis is the child. To the child record are attached the characteristics of the parents and those of the household. The dependent variable is the death of the child. The analytical procedure consists of predicting the effect of household wealth and mother's education on the survival outcome, the death of a child.

In order to establish the pathways of influence of our variables of interest, the models are first estimated from the simplest, beginning by estimating the gross effect of household wealth and only including household wealth in the model. Then background variables are added to see if they influence the effect of the main variable, that is, the net effect. In other terms, the gross effect is captured when only the variable of interest, household wealth, is included in the model. The inclusion of control variables allows teasing out of the "real effect" of household wealth, that is the net effect. If we call β the coefficient estimated by the model (the gross effect or net effect) and Z_i , the characteristics of the individual i , $e^{\beta Z_i}$ is the relative risk associated with having the characteristics Z_i . If the relative risk is equal to unity, it means that the characteristic examined has no effect. The study will document to what extent mother's education is as important as household wealth for the survival of a child.

The following background variables have been included in the models: mother's education, age of the mother at the birth of the child, length of the mother's previous birth interval, sex of the child, birth order, type of residence (urban or rural), and household wealth. The variable on the duration of breastfeeding was first included in the models but due to the fact that it was not collected in some surveys, it was excluded from the list of independent variables. In any case, the inclusion of breastfeeding duration does not significantly affect the impact of household wealth or mother's education.

Further details about the analytical approach used (proportional hazard modelling of the risk of dying for a child using individual characteristics of the households, mothers and their children) and the dataset analysed are given in a technical paper (Gaigbe-Togbe, 2015). Table II.1 presents these variables and their categories used for this analysis.

Table II.1. Background variables and dependent variables

Variable	Category
Dependent variable	
Survival	Dead Alive
Independent variables	
Household wealth	Poorest quintile Poor quintile Middle quintile Rich quintile Richest quintile
Mother's education	No education or less than primary Primary education Secondary education Tertiary education
Age of mother at birth	Less than 18 years 18 to 19 years 20 to 29 years 30 years and over
Previous birth interval	less than 18 months 18 to 24 months 24 months or more
Birth order	First birth Second or third birth Fourth birth or higher
Sex of the child	Male Female
Type of residence	Rural Urban

Mortality may be studied using logit modelling. Several studies conducted on mortality have used logit models and reached the same results as the hazard models (Palloni and Tienda, 1986). In this study, the choice of hazard modelling is based on the fact that it allows a continuous representation of the time of the event as is likely the case for a death. Although logit models allow us to handle time-dependent covariates like breastfeeding and following conception, it is restricted because of the difficulty in incorporating the exact time of occurrence of an event, such as breastfeeding or the occurrence of a following conception (Gaigbe-Togbe, 1994).

This analysis is based on a series of proportional hazard models of the effect of household wealth and mother's education on child survival. The exposure variable, age, is measured in months. Several models are constructed for the different age segments. Models have been built for the infancy period (0-11 months), for the toddler period (12-59 months), and also the whole early childhood mortality (0-59 months).

D. RESULTS

The following section presents the results of the analysis of the impact of household wealth and mother's education on early childhood mortality. The results are shown for ages 0-4 years (0-59 months), for the first year (0-11 months), and for ages 1-4 years (12-59 months), respectively.

1. Effect of household wealth at global level (all 50 countries)

Table II.2 presents relative levels of under-five mortality for groups of households classified according to a composite measure of household wealth. Within each category, the table gives the population-weighted average relative level of child mortality compared to the poorest category-across 50 low-and middle-income countries. The table distinguishes between "gross" and "net" differentials. Gross differentials are based on observed death rates, derived using available data and direct calculation methods. Net differentials are based on adjusted estimates of the under-five mortality rate, where the adjustment consists of applying statistical controls for other factors potentially contributing to the gross differentials separately from household wealth. In addition to household wealth, variables such as age of mother at the birth of the child, length of the mother's previous birth interval, birth order and sex of the child were used as statistical controls. Figure II.1 presents the net relative risk of death. The table presents the estimated coefficients as well as the relative risks. The reference category (the poorest quintile) is given in parentheses. The results suggest that household wealth may have substantial effects on child survival at the global level. In general, the probability of child survival tends to be higher at higher levels of household wealth. Children from households in the richest quintile have the lowest risk of death, and both the gross and the net relative risks of dying tend to decrease from the poorest to the richest quintile.

The gross relative risk of a child dying from the richest quintile is 68 per cent that for a child from the poorest quintile. When the effects of other potential intervening factors are controlled using statistical methods, the relative risk of a child dying from the richest household becomes 78 per cent that for a child from the poorest household. The relative risk of dying for a child decreases steadily from the poorest household to the richest household (figure II.1). The gross relative risk of dying for a child from a middle-income household (middle quintile) is 91 per cent of that for a child from the poorest household, whereas the net relative risk of the same child is 96 per cent that of a child from the poorest household. Thus in both cases, the differential become smaller but does not disappear when accounting for the association between other potential causal factors and levels of child mortality. This finding is consistent with the conclusion that household wealth has a substantial causal impact on levels of child mortality and may account for a significant portion of the observed differentials.

Table II.2. Proportional hazard model coefficients and relative risks of death in early childhood (0-59 months) by household wealth

Variable	Gross effect	Gross effect Relative risk	Net effect	Net effect Relative risk
Wealth index				
(Poorest)	-----	1.0000	-----	1.0000
Poor	-0.18800	0.9822	0.01304	1.0131
Middle	-0.09743***	0.9072	-0.04293*	0.9580
Rich	-0.14512***	0.8649	-0.06516***	0.9369
Richest	-0.38149***	0.6828	-0.25359***	0.7760

Note: Reference category is given in parentheses

*** p<.001

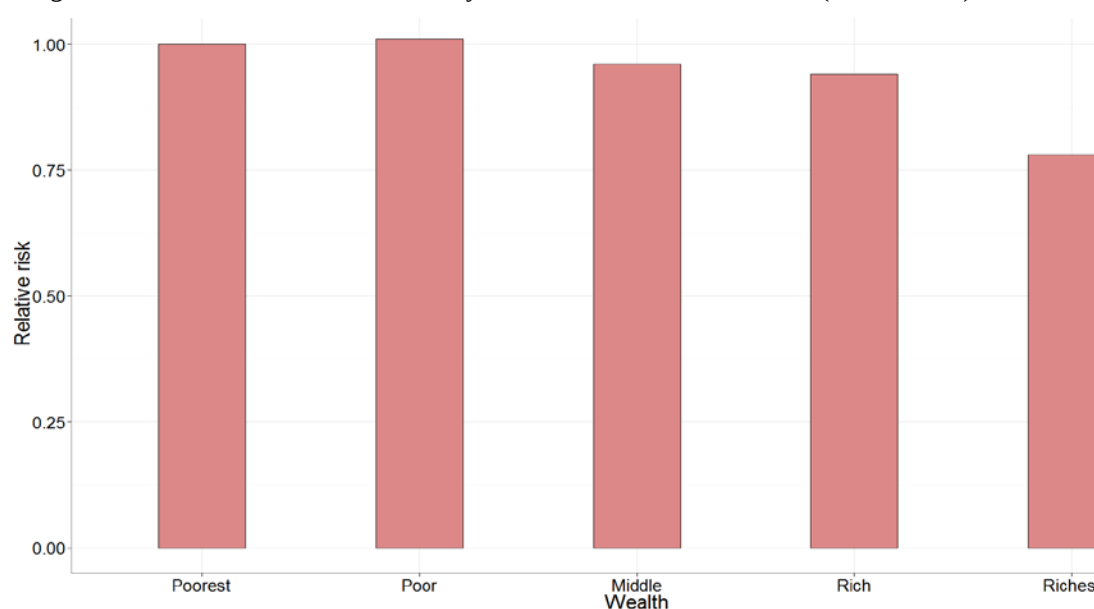
** p<.01

* p<.05

& p<.10

#N = 468094

Figure II.1. Net relative risk* of death by household wealth in childhood (0-59 months) in the world



Note: the country data are from the most recent DHS surveys conducted in 2005-2014 and are weighted by the 2005 population size of each of the 50 countries in a multivariate regression. * Relative risk is the ratio of the risk of dying in the category under study compared with that in the reference category (poorest quintile).

2. Effect of household wealth on infant mortality

The association between household wealth and the survival of infants is statistically significant. At the global level (the 50 countries in the analysis), the net relative risk of dying for a child born in a household in the richest quintile dying is 80 per cent of that for a child born in a household in the poorest quintile (table II.3 and figure II.2). The relative risk of mortality diminishes with the level of household wealth. It is 96 per cent for a child in the middle quintile of households and 94 per cent for a child from the rich quintile.

Table II.3. Proportional hazard model coefficients and relative risks in infancy (0-11 months) by household wealth

Variable	Gross effect	Gross effect Relative risk	Net effect	Net effect Relative risk
Wealth index				
(Poorest)	-----	1.0000	-----	1.0000
Poor	-0.04078*	0.9600	-0.005439	0.9946
Middle	-0.09929***	0.9055	-0.042679*	0.9582
Rich	-0.14025***	0.8691	0.062948**	0.9390
Richest	-0.33514***	0.7152	0.216473***	0.8054

Note: Reference category is given in parentheses

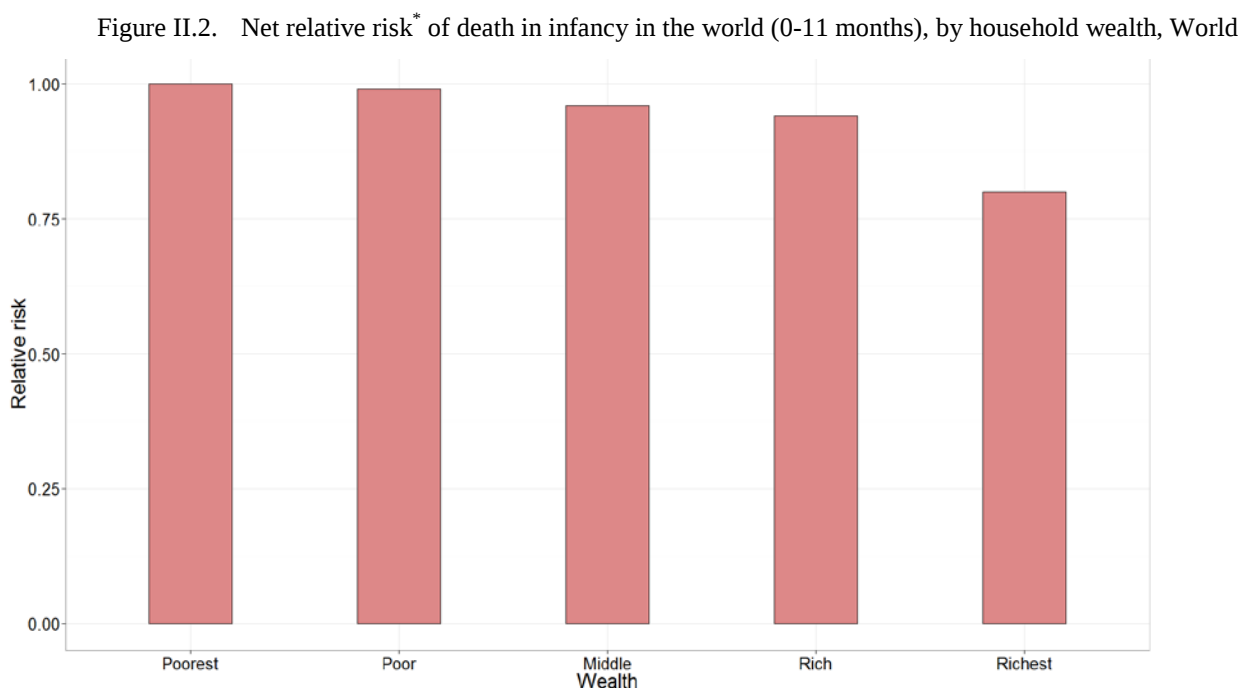
*** p<.001

** p<.01

* p<.05

& p<.10

#N = 202720



Note: the country data are from the most recent DHS surveys conducted in 2005-2014 and are weighted by the 2005 population size of each of the 50 countries in a multivariate regression. * Relative risk is the ratio of the risk of dying in the category under study compared with that in the reference category (poorest quintile).

3. Effect of household wealth on child mortality (12-59 months)

At the global level, the association between household wealth and child mortality is still present after the first year of life. Table II.4 and figure II.3 show that the net relative risk of dying for a child of the richest quintile compared to that for the poorest quintile is 66 per cent between the first year of life and the fifth birthday. Whereas the gross relative risk of dying for a child from the middle quintile is 88 per cent that for a child from the poorest quintile, the net relative risk is 9 per cent but not significant.

Table II.4. Proportional hazard model coefficients and relative risks of death in childhood (12-59 months interval) by household wealth

Variable	Gross effect	Gross effect Relative risk	Net effect	Net effect Relative risk
Wealth index				
(Poorest)	-----	1.0000	-----	1.0000
Poor	0.01854	1.0187	0.05978	1.0616
Middle	-0.13247**	0.8759	-0.05836	0.9433
Rich	-0.19930***	0.8193	-0.08324&	0.9201
Richest	-0.62176***	0.5370	-0.41454***	0.6607

Note: Reference category is given in parentheses

*** p<.001

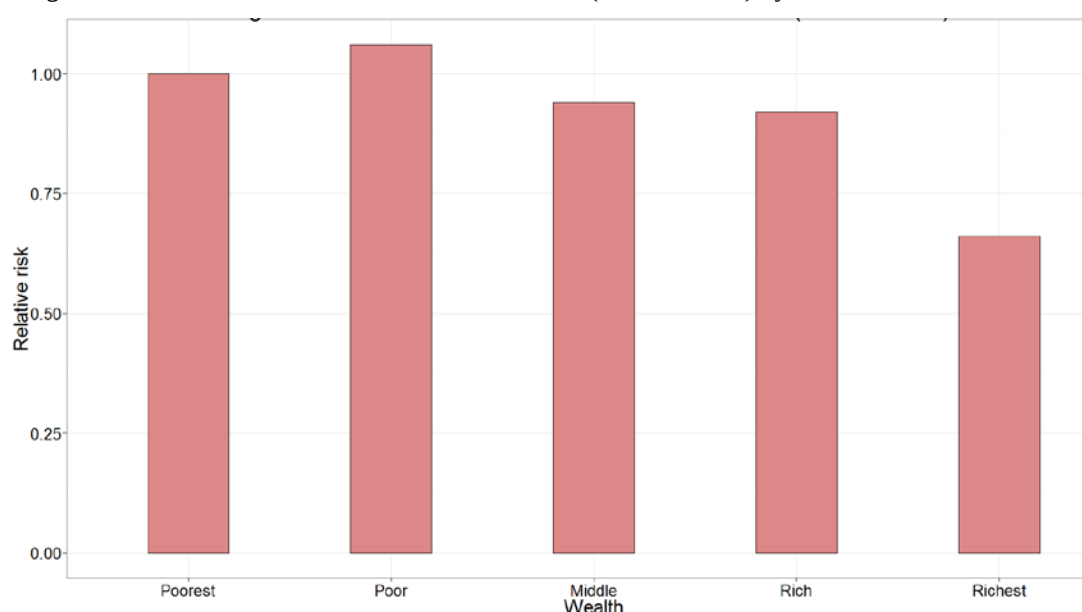
** p<.01

* p<.05

& p<.10

N =265374

Figure II.3. Net relative risk* of death in childhood (12-59 months) by household wealth, World

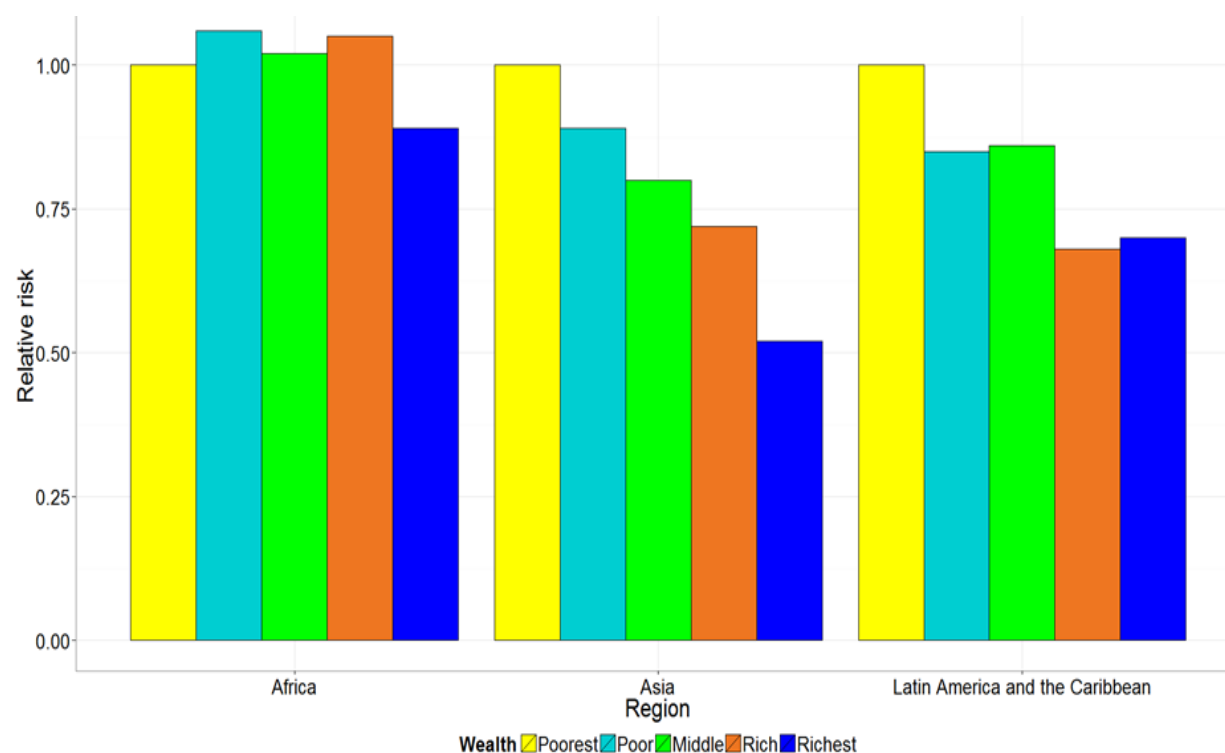


Note: the country data are from the most recent DHS surveys conducted in 2005-2014 and are weighted by the 2005 population size of each of the 50 countries in a multivariate regression. * Relative risk is the ratio of the risk of dying in the category under study compared with that in the reference category (poorest quintile).

4. Effect of household wealth on mortality at the regional level

Figure II.4 and table II.5 present the association between household wealth and child survival for the three regions included in the analysis for the whole early childhood (0-59 months). The net relative risk of dying before reaching the fifth birthday for a child born in the richest household in Africa is 89 per cent of that for a child born in the poorest household in the region after controlling for other factors. The gross relative risk is 81 per cent. In Asia, the gross relative risk of dying for a child from the richest household is 46 per cent of that for a child of the poorest household. When other factors are controlled, the relative risk becomes 52 per cent that for a child from the poorest household. In Latin America and the Caribbean, the association between household wealth and child survival is comparable to that of Asia with a child in the richest household having only 61 per cent of gross relative risk of dying and 70 per cent net relative risk of dying of that for a child from the poorest household. Of the three regions, Africa is the region where the association between household wealth and child survival seems to be the lowest, with a net relative risk of dying of 89 per cent, compared to 70 per cent in Latin America and the Caribbean and 52 per cent in Asia.

Figure II.4. Net relative risk* of death in childhood (0-59 months) by household wealth and by region



Note: the country data are from the most recent DHS surveys conducted in 2005-2014 and are weighted by the 2005 population size of each of the 50 countries in a multivariate regression. * Relative risk is the ratio of the risk of dying in the category under study compared with that in the reference category (poorest quintile).

Table II.5 Proportional hazard model coefficients and relative risks of death by region (0-59 months) by household wealth

Variable	Gross effect	Gross effect Relative risk	Net effect	Net effect Relative risk
AFRICA (#N = 301365)				
Wealth index				
(Poorest)	-----	1.0000	-----	1.0000
Poor	0.02784	1.0284	0.05720	1.0589
Middle	-0.02197	0.9783	0.02211	1.0224
Rich	-0.01313	0.9870	0.05119*	1.0525
Richest	-0.20739***	0.8127	-0.11267***	0.8935
ASIA (# N= 92769)				
Wealth index				
(Poorest)	-----	1.0000	-----	1.0000
Poor	-0.15578***	0.8558	0.11882**	0.8880
Middle	-0.28552***	0.7516	-0.22163***	0.8012
Rich	-0.41311***	0.6616	-0.32776***	0.7205
Richest	-0.77281***	0.4617	-0.64927**	0.5224
LATIN AMERICA AND THE CARIBBEAN (#N = 66937)				
Wealth index				
(Poorest)	-----	1.0000	-----	1.0000
Poor	-0.21834***	0.8039	-0.16603**	0.8470
Middle	-0.24142***	0.7555	-0.15633**	0.8553
Rich	-0.50584***	0.6030	-0.39056***	0.6767
Richest	-0.49252***	0.6111	-0.36299***	0.6956
Note reference category is given in parentheses				
*** p<.001	** p<.01	* p<.05	& p<.10	

5. Impact of household wealth on infant mortality (0-11 months) by region

Table II.6 shows that during the first year of life, the gross relative risk of dying for a child born in the richest household in Africa is 94 per cent of that for the poorest household. It is slightly reduced to 92 per cent when other factors are controlled but not statistically significant. The association between household wealth and the survival of infants is only significant for the richest category when other factors are not taken into consideration. In contrast, the association between household wealth and infant survival is more pronounced in Asia. The gross relative risk of dying for a child from a richest household from Asia compared to that for a child from the poorest household is 73 per cent and the relative risk increases to 78 per cent when other factors are controlled. The association between household wealth and infant mortality increases steadily from the poorest quintile to the richest quintile in Asia whereas, in Africa and Latin America and the Caribbean, this relationship is not observed.

Table II.6. Proportional hazard model coefficients and relative risks by region (0-11 months) by household wealth

Variable	Gross effect	Gross effect Relative risk	Net effect	Net effect Relative risk
AFRICA (#N = 74206)				
Wealth index				
(Poorest)	-----	1.0000	-----	1.0000
Poor	0.006092	1.0061	0.02199	1.0481
Middle	-0.010917	0.9891	0.01160	1.0161
Rich	-0.002317	1.0023	0.03138	1.0526
Richest	-0.059556*	0.9422	-0.02892	0.9176
ASIA (# N=21502)				
Wealth index				
(Poorest)	-----	1.0000	-----	1.0000
Poor	-0.002907	0.9971	0.01477	1.0149
Middle	-0.110953*	0.8950	-0.07132	0.9312
Rich	-0.160313**	0.8519	-0.12355*	0.8838
Richest	-0.310249***	0.7333	-0.24566***	0.7822
LATIN AMERICA AND THE CARIBBEAN (#N =14731)				
Wealth index				
(Poorest)	-----	1.0000	-----	1.0000
Poor	-0.08558	0.9180	-0.039995	0.9608
Middle	-0.04888	0.9523	-0.005241	0.9948
Rich	-0.15996*	0.8522	-0.123441	0.8839
Richest	-0.07230	0.9303	-0.074071	0.9286

Note: Reference category is given in parentheses

*** p<.001

** p<.01

* p<.05

& p<.10

The gross and net relative risks of dying for a child in the richest quintile in Latin America and the Caribbean are respectively 93 per cent and 92 per cent that for a child in the poorest quintile. As observed in Africa, the association between household wealth on the survival of infants is less pronounced in Latin America and the Caribbean and is even statistically not significant when other factors are controlled in the model.

6. Impact of household wealth on child mortality (12-59 months) by region

Whereas the association between household wealth and survival is less pronounced in infancy in Asia, it is more important after the first anniversary in all regions. In Africa, the gross relative risk of death for a child in the richest quintile is 64 per cent lower than that for a child in the poorest quintile. The relative risk is reduced to 73 per cent when other factors are taken into consideration -net relative risk (table II.7).

In Asia, the gross relative risk of death of a child from the richest quintile is only 32 per cent of that for a child from the poorest quintile. The relationship still holds when other factors are controlled for with relative risk of death in the richest quintile being 38 per cent lower than that in the poorest.

Table II.7. Proportional hazard model coefficients and Relative risks by region (12-59 months) by household wealth and by region

Variable	Gross effect	Gross effect Relative risk	Net effect	Net effect Relative risk
Wealth index		AFRICA (#N = 227159)		
(Poorest)	-----	1.0000	-----	1.0000
Poor	0.08537	1.0891	0.11922**	1.1266
Middle	-0.02570	0.9746	0.02441	1.0247
Rich	-0.03462	0.9660	0.04354	1.0445
Richest	-0.44657***	0.6398	-0.30845***	0.7346
Wealth index		ASIA (# N=71267)		
(Poorest)	-----	1.0000	-----	1.0000
Poor	-0.2453*	0.7825	-0.19660	0.8215
Middle	-0.6112***	0.5427	-0.52253***	0.5930
Rich	-0.6685***	0.5125	-0.55122***	0.5762
Richest	-1.1455***	0.3181	-0.97611***	0.3768
Wealth index		LATIN AMERICA AND THE CARIBBEAN (#N = 52206)		
(Poorest)	-----	1.0000	-----	1.0000
Poor	-0.5538***	0.5748	-0.4814**	0.6179
Middle	-0.5141**	0.5981	-0.3929*	0.6751
Rich	-0.9264***	0.3960	-0.7484***	0.4731
Richest	-1.5538***	0.2941	-0.9785**	0.3759

Note: Reference category is given in parentheses

*** p<.001

** p<.01

* p<.05

& p<.10

In Latin America and the Caribbean, the association between household wealth and child survival after the first year of life is most marked. The gross relative risk of dying for a child in the richest quintile is only 29 per cent that for a child in the poorest quintile. When other factors are statistically controlled for, the relationship between household wealth and child mortality does not change with a child in the richest quintile having only 38 per cent risk of dying after the first year compared to a child in the poorest quintile.

7. The impact of the place of residence (urban-rural) at the global level

As pointed out earlier, the wealth index is based on the number of assets that a household possesses and the services available to the household. Some of these assets or services could be public goods and available to the majority of households in some areas making it difficult to differentiate the impact of the wealth index. Some of the assets that are available in urban areas may not be available in rural areas. It is therefore important to take into account the place of residence while calculating the wealth index or constructing different indexes for the urban areas and the rural areas. The DHS wealth index as currently calculated relates to the national population as a whole. A concern with the originally constituted index was that it was too “urban” in its construction, depending on assets and services that mainly urban populations would have but that rural populations would not have. Later, separate urban and rural wealth indexes were calculated and then combined into a national wealth index to allow for differing item weightings in each area and urban- and rural-specific analyses (Rutstein, 2008; Rutstein and Staveteig, 2014).

Table II.8. Proportional hazard model coefficients and Relative risks of death by type of area (12-59 months) by household wealth

Variable	Gross effect	Gross effect Relative risk	Net effect	Net effect Relative risk
URBAN (#N = 158861)				
Wealth index				
(Poorest)	-----	1.0000	-----	1.0000
Poor	-0.092922	0.911265	-0.03385	0.9667
Middle	-0.104197*	0.901048	-0.01501	0.9851
Rich	0.006305	1.3006325	0.12338	1.1313
Richest	-0.133825**	0.874743	0.02855	1.02896
RURAL (# N=309249)				
Wealth index				
(Poorest)	-----	1.0000	-----	1.0000
Poor	0.02164	1.02187	0.045590	1.046646
Middle	-0.01266	0.98742	0.026943	1.027309
Rich	-0.06161**	0.94025	-0.009027	0.991014
Richest	-0.31329***	0.73104	-0.234414*	0.791034

Note: Reference category is given in parentheses

*** p<.001

** p<.01

* p<.05

& p<.10

In order to address this issue, separate models for urban areas and rural areas were constructed. Table II.8 shows that the association between household wealth and child survival is more prevalent in rural areas as a whole than in urban areas. The gross relative risk of dying for a child from the richest household in rural areas is 73 per cent that for a child in a poorest household while his or her net relative

risk is 79 per cent and statistically significant. In contrast, the gross relative risk of death for a child in the richest quintile in urban areas is 87 per cent and the net relative risk is not different from that for a child of the poorest quintile. The availability of services for the large majority of households in urban areas reduces the magnitude of the impact of household wealth. For example, better water supply and sanitation are more available to the majority of households in urban areas than in rural areas. A number of studies have demonstrated that water supply and sanitation were important determinants of early childhood mortality (Merrick, 1976; Fayehun, 2010; Gaigbe-Togbe, 1994; Osita and others, 2014). As an obvious fact, water supply and sanitation are important factors, which are included in the measurement of the wealth index. As observed at the global level, the impact of household wealth seems to be more prevalent in rural areas than in urban areas in Asia and to a less extent in Africa and Latin America and the Caribbean.

8. The impact of mothers' education at the global level

Most studies conducted so far demonstrate that mother's education has an impact on child health as household wealth does. However, the question is whether the impact of household health is independent of that of mother's education. It is well known that wealth increases with education. In order to answer this question, models on the impact of mother's education were also constructed. It appears that the effect of mother's education is still present when household wealth is statistically controlled, indicating that the effect of education is independent of that of household wealth. In contrast, the impact of household wealth tends to be reduced or become less statistically significant when mother's education is introduced in the models. The gross relative risk of dying of a child from a household with a mother with tertiary education is 26 per cent that for a child of a mother with no education or less than primary level education (table 9). When other factors are controlled, including household wealth, the relative risk of dying of a child of a mother with tertiary education is 29 per cent that for a child of a mother with less than a primary education.

Table II.9. Proportional hazard model coefficients and relative risks of death in early child hood (0-59 months) by mother's education

Variable	Gross effect	Gross effect Relative risk	Net effect	Net effect Relative risk
Mother's education				
(No education)	-----	1.0000	-----	1.0000
Primary	-0.28483***	0.7522	-0.2589***	0.7719
Secondary	-0.69453***	0.4993	-0.6414***	0.5266
Tertiary	-1.33038***	0.2638	-1.223***	0.2944

Note: Reference category is given in parentheses

*** p<.001

** p<.01

* p<.05

& p<.10

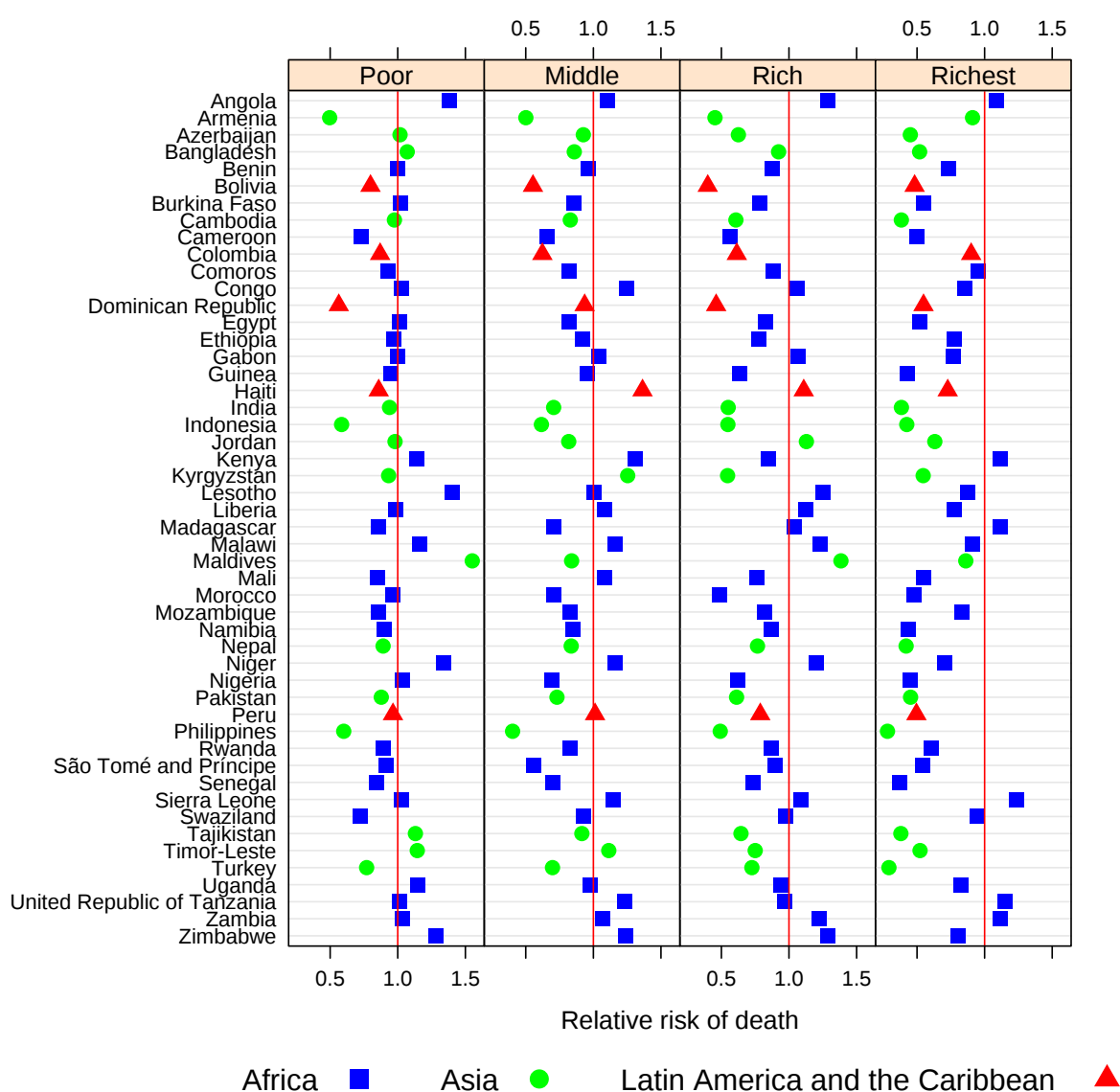
#N = 468094

The study of 17 developing countries conducted by Bicego and Boerma in 1993 found that the effect of controlling for household economic resources reduced the relationship between maternal education and both neonatal mortality and mortality at ages 1-23 months by similar and substantial amounts, but that the degree to which economic resources confounded this relationship varied considerably over the countries studied (Bicego and Boerma, 1993; Fuchs and others, 2010; Quamruzzama and others, 2014).

9. The impact of household wealth and mother's education on child survival at the country level

Although the analysis is conducted mostly at the global and regional levels, it is essential to investigate the impact of household wealth in individual countries. Figure II.5 presents the net relative risk of death by wealth quintile and by countries and figure II.6 shows the relative risks of death by wealth quintile and by region for the whole age group 0-59 months. The red vertical lines represent the value of the category of reference, in this case, the poorest quintile. It appears that the relationship between household wealth and child survival is most pronounced. For most countries under study, the relative risk of death of children in the first five years of life is associated with household wealth. In particular, children from households in the richest quintile have a net relative risk of death much lower than children from households in the poorest quintile.

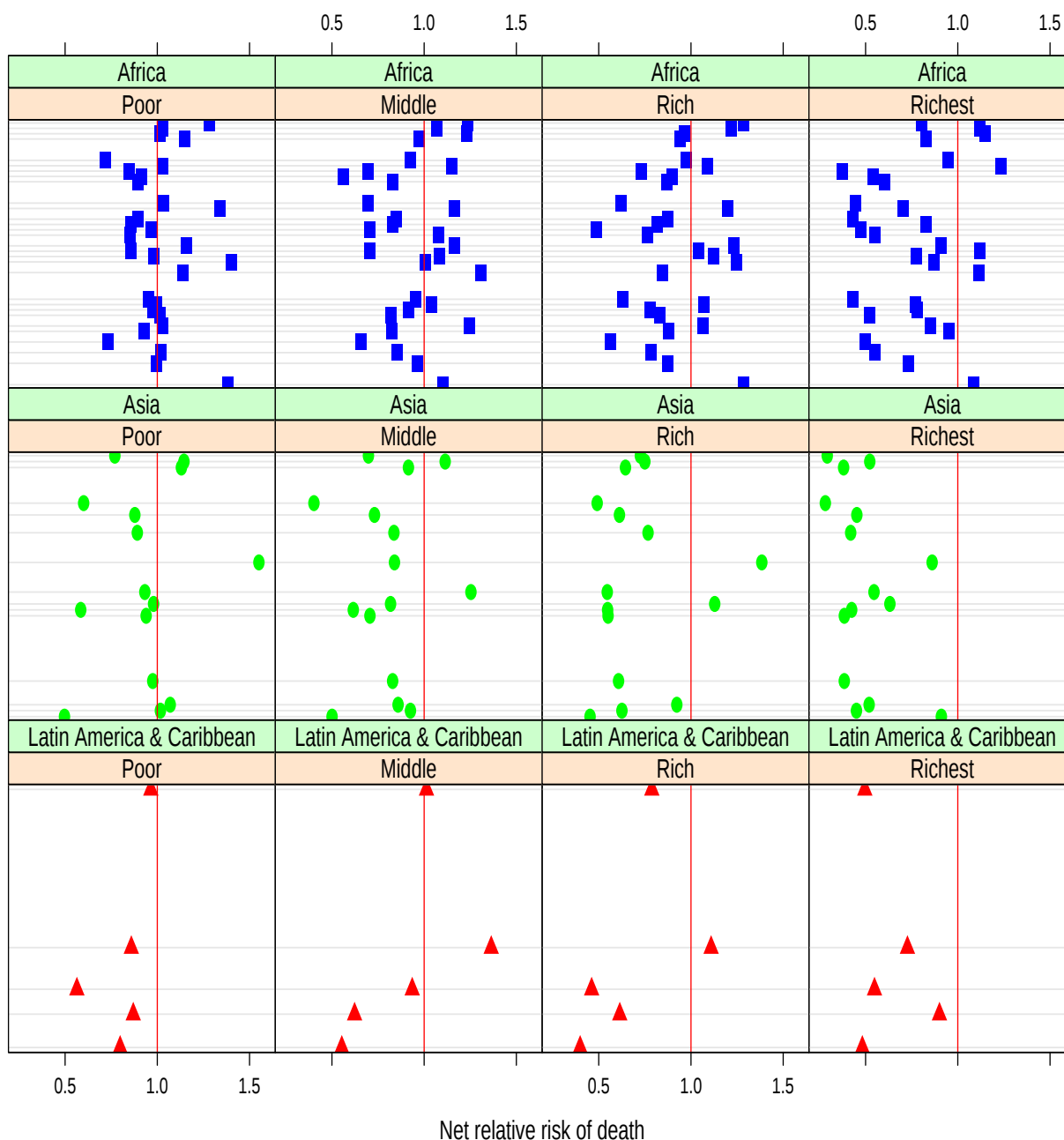
Figure II.5. Net relative risk of death (0-59 months) by wealth quintile



Note: The poorest wealth quintile (omitted from this figure) is the baseline reference category.

Figure II.6 shows that except for Africa, the net relative risk of dying for children from the richest households are constantly lower than that for children from the poorest households in other regions (Asia and Latin America and the Caribbean). For six countries in Africa, (Angola, Kenya, Madagascar, Sierra Leone, United Republic of Tanzania and Zambia) these results suggest that children from the richest households have a relative risk of death higher than that of children from the poorest households.

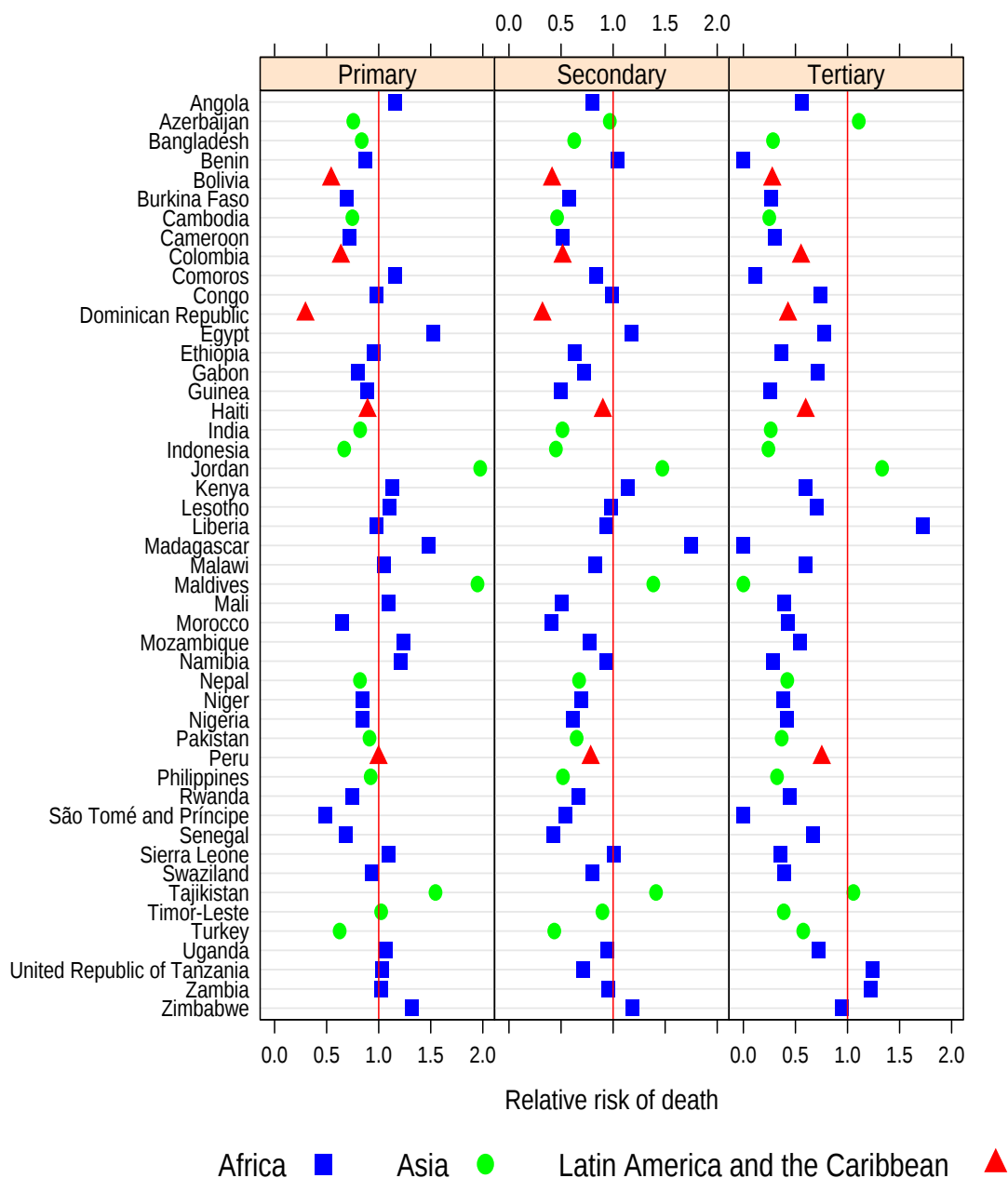
Figure II.6. Net relative risk of death (0-59 months) by wealth quintile and by region



Note: The poorest wealth quintile (omitted from this figure) is the baseline reference category.

Figure II.7 presents the net relative risk of death of children 0 to 59 months by the level of education of the mother for individual countries. The red vertical lines represent children with mothers with less than primary level of education. Again, it is apparent that mother's education plays a role in the chances of survival of children even after controlling for household wealth in many countries. For only 6 countries out of the 50, children of mothers with a tertiary education have a relative risk of death higher than that of the children of mothers with less than a primary education or no education.

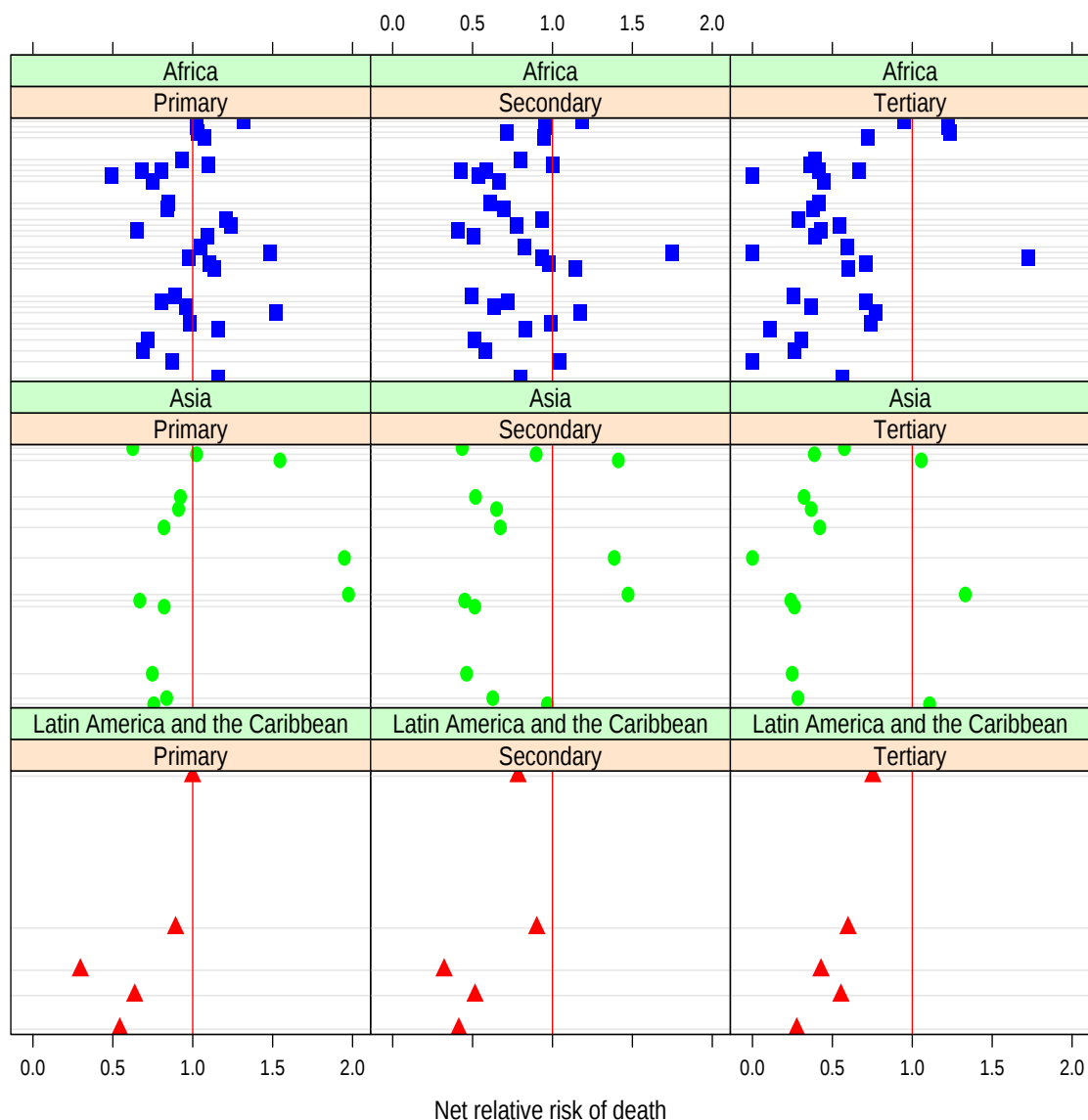
Figure II.7. Net relative risk of death (0-59 months) by mother's level of education



Note: The "No education or less than primary" category (omitted from this figure) is the baseline reference category

Figure II.8 presents the net relative risk of death by mother's education and by region. It appears again that in Africa, children of mothers with primary education do not have a marked advantage over children of mothers with no education. But as the level of education increases, marked differences are observed for children of mothers with secondary and tertiary education having a lower relative risk of death than children of mothers with no education. In Asia and Latin America, on the other hand, children of mothers with primary education have a lower relative risk of death than children of mothers with no education. The relationship becomes more marked for the secondary and tertiary education.

Figure II.8. Net relative risk of death (0-59 months) by mother's education and by region

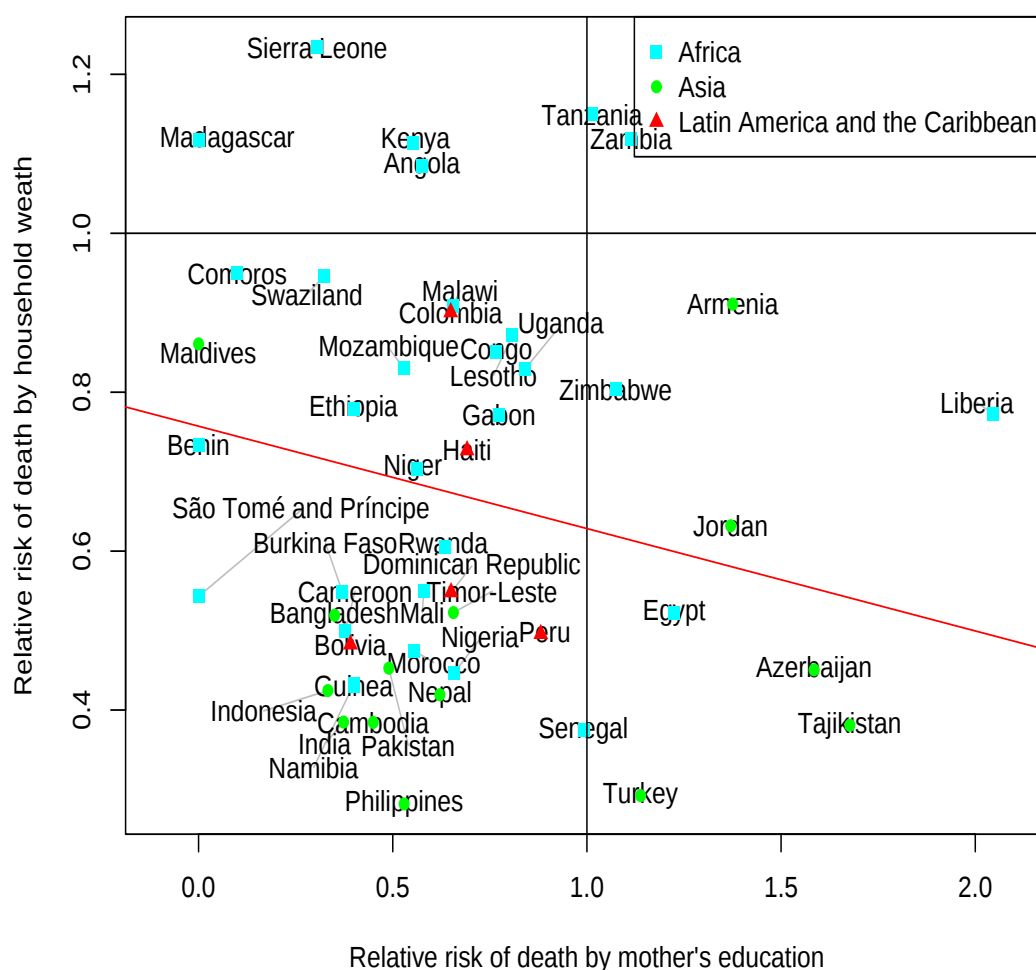


Note: The "No education or less than primary" category (omitted from this figure) is the baseline reference category.

Figure II.9 presents the relative risks of death for the children of mothers with tertiary education plotted against the relative risks of death of children in the richest quintile. The red line represents the regression line. Although, the R-squared is only 0.106, the coefficient of linear regression of household wealth on education (0.216) is significant at a p-value of 1 per cent. In 35 of the 50 countries included in

the analysis, children of mothers with tertiary education and children from richest households have relative risk of death lower than that of children from the poorest households and children from mothers with less than primary education. In six countries, all in Africa (Angola, Madagascar, Kenya, Sierra Leone, United Republic of Tanzania, and Zambia), the relative risk of death of children in the richest quintile is lower than that of the poorest quintile whereas the relative risk of death of children with mothers with tertiary education is higher than that of the children of mothers with no education or less than primary education in 10 countries (five in Africa and five in Asia). In contrast, in two countries, United Republic of Tanzania and Zambia, the relative risk of death for children from the wealthiest households and with mothers possessing tertiary education is higher than that of both children from the poorest households and of mothers with no education or less than primary education.

Figure II.9. Net relative risk of death (0-59 months), tertiary mother's education versus richest quintile



E. DISCUSSION

The study has demonstrated that household wealth plays a crucial role in the survival of children under-five years of age in many countries in the study. Children from the richest households are more likely to survive through the first five years of life than their counterparts from the poorest households. As pointed out in Mosley's framework, for the health-promoting effects of the most proximate determinants of health, there is a positive association with higher income, including energy intake, likelihood that delivery will take place away from home, and type of preventive measures that could improve child health and reduce child deaths. At the regional level, Asia and Latin America are the regions where the relationship between household wealth and risk of child death is the most pronounced. Conversely, in Africa, while the relationship between household wealth and child death still holds, it is weaker. Many factors may contribute to the weakening of the impact of household wealth on child survival. One possible factor is that in settings with more challenging geographic conditions and where most of the population live far from a health facility, economic conditions may be less important than geography (Mulholland and others, 2008). This tends to be the case in many African countries.

In the first year of life, the impact of household wealth is significant only for Asia. After the first year of life, the influence of household wealth is present in all regions studied: Africa, Asia, and Latin America and the Caribbean. The effect of household wealth is more pronounced in the age group 12-59 months in all regions. The reasons for the less significance of the impact of household wealth in infancy in Africa and Latin America and the Caribbean are not clear. It may be possible that the cumulative effect of differential in nutritional status and access to health services become more pronounced after infancy in these regions, which may explain the lack of effect of household wealth in infancy in those regions. Studies from INDEPTH show that the differentials noted in infancy have shaped the relationship between socio-economic status and under-five mortality (Mwageni and others, 2011). But another has shown that the relationship does not hold when other factors are taken into consideration (Debpur and others, 2011).

The study also shows that irrespective of the household wealth, the impact of mother's education is present, proving that mother's education affects child survival through other mechanisms than the resources available to the household. The knowledge and practices that could save the lives of children are mostly acquired by women with a level of education higher than the primary level. Such practices include better hygiene.

The inclusion of mother's education without interaction term in the model reduces the impact of household wealth. This confirms that part of the effect of household wealth on child survival plays through that of mother's education (Fuchs and others, 2010).

This confirms the hypothesis that in addition to economic resources that the level of education allows to acquire, it also allows a better knowledge of measures to be taken to improve hygiene and the health of young children. Educated mothers are more likely to follow the instructions given by the medical personnel when their children become sick. They are also more likely to assess the ill-health status of their children and follow the vaccination schedule (Desai and Alva, 1998; Abuya and others, 2012; Fuchs and others, 2010; Hajizadeh and others, 2014).

Another aspect relative to household wealth is that its impact is more pronounced in the period after the first year of life except in Asia, where household wealth is also an important determinant of child survival in the first year of life. In general, the influence of household wealth on child mortality increases with age.

The impact of household wealth on child survival is more present in rural areas than in urban areas. Many of the variables that are used in the combined wealth index such as electricity, water supply, and sanitation are commonly available in urban areas. The existence of better health facilities and services available to all is more common in urban areas. This makes it less likely that household wealth could have a significant impact on child survival in these areas. On the contrary, the presence of electricity and piped water in the household in rural areas is less common thus accentuating the differences with other households and the impact of household wealth. Studies have also found that there are significant socioeconomic differences in an apparently homogeneously poor rural area, for example, and that the main difference between the more and less poor in health is not in the likelihood of being ill but in the access to adequate treatment once ill (Gwatkin, 2003; WHO, 2009).

This study has demonstrated that socioeconomic inequalities matter for child health and mortality. Hence, an equity-focused approach as proposed by the United Nations Children Fund (UNICEF), will improve returns on investment, averting many more child and maternal deaths. While it is important to invest globally in child health, it is equally important to target the most economically vulnerable children. Equity in the access to health care services will improve child survival in settings where health facilities are inaccessible to dwellings (Mulholland and others, 2008).

The 2008 World Health Report identified raising the visibility of health inequities in public awareness and policy debates as a key mechanism to address health equity within primary health care (WHO, 2008). Because of national burdens of disease, ill health and malnutrition are concentrated in the most excluded and deprived child populations. Providing these children with essential services can reduce disparities within nations, accelerate progress towards the health-related Millennium Development Goals (MDGs) and more recently the Sustainable Development Goals, and reduce disparities within nations (UNICEF, 2010, Carrera and others, 2012).

Table II.10 List of countries with the most recent DHS survey conducted in 2005-2013 and the number of children analysed in each survey

Country	Region	Survey	Number of children
Angola	Africa	2010 MIS	3,194
Armenia	Asia	2010 DHS	646
Azerbaijan	Asia	2006 DHS	905
Bangladesh	Asia	2011 DHS	3,250
Benin	Africa	2011 DHS	5,284
Bolivia	Latin America and the Caribbean	2008 DHS	3,396
Burkina Faso	Africa	2010 DHS	6,068
Cambodia	Asia	2010 DHS	3,184
Cameroon	Africa	2011 DHS	4,955
Colombia	Latin America and the Caribbean	2010 DHS	6,785
Comoros	Africa	2012 DHS	1,292
Congo	Africa	2011 DHS	3,937
Dominican Republic	Latin America and the Caribbean	2013 DHS	1,445
Egypt	Africa	2008 DHS	4,670
Ethiopia	Africa	2010-2011 DHS	4,313
Gabon	Africa	2012 DHS	2,591
Guinea	Africa	2012 DHS	2,872
Haiti	Latin America and the Caribbean	2012 DHS	2,948
India	Asia	2005 DHS	19,440
Indonesia	Asia	2012 DHS	7,164
Jordan	Asia	2012 DHS	3,916
Kenya	Africa	2008-2009 DHS	2,413
Kyrgyzstan	Asia	2012 DHS	1,860
Lesotho	Africa	2009-2010 DHS	1,688
Liberia	Africa	2013 DHS	3,137
Madagascar	Africa	2011 DHS	6,248
Malawi	Africa	2010 DHS	7,907
Maldives	Asia	2009 DHS	1,690
Mali	Africa	2012 DHS	4,062
Morocco	Africa	2003-2004 DHS	2,329
Mozambique	Africa	2011 DHS	4,604
Namibia	Africa	2013 DHS	2,071
Nepal	Asia	2011 DHS	1,968
Niger	Africa	2012 DHS	4,943
Nigeria	Africa	2013 DHS	12,784
Pakistan	Asia	2012-2013 DHS	4,232
Peru	Latin America and the Caribbean	2012 DHS	3,654
Philippines	Asia	2013 DHS	2,856
Rwanda	Africa	2010 DHS	3,220
São Tomé and Príncipe	Africa	2008-2009 DHS	792
Senegal	Africa	2010 DHS	4,998
Sierra Leone	Africa	2013 DHS	4,629
Swaziland	Africa	2006 DHS	1,131
Tajikistan	Asia	2011 DHS	2,013
Timor-Leste	Asia	2009 DHS	3,771
Turkey	Asia	2003 DHS	1,659
Uganda	Africa	2011 DHS	3,104
United Republic of Tanzania	Africa	2010 DHS	3,230
Zambia	Africa	2007 DHS	2,638
Zimbabwe	Africa	2010 DHS	5,246

III. Policy implications of the Sustainable Development Goals for population health

“Health is central to development: it is a precondition for, a contributor to, as well as an indicator and an outcome of progress in sustainable development” (WHO, 2012). Over the last several decades, there has been considerable progress worldwide in improving various factors that influence population health, including nutrition, access to safe water, improved sanitation and the general standard of living. The Millennium Development Goals (MDGs) emphasized key aspects of the health and mortality of populations, including maternal and child health (goals 4 and 5), as well as HIV/AIDS, tuberculosis and malaria (goal 6).

It is difficult to know for certain whether the MDGs merely drew attention to the progress being made in these areas or whether the Goals helped to fuel an acceleration of that progress. In either case, the remarkable achievements of the MDGs era must be sustained and reinforced if the world is to achieve the new and more ambitious objectives of the Sustainable Development Goals (SDGs) adopted by United Nations General Assembly in September 2015 (United Nations, 2015a),

The SDGs call for the following achievements by 2030:

- Reduce the global maternal mortality ratio to less than 70 per 100,000 live births (target 3.1);
- End preventable deaths of newborns and children under five years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-five mortality to at least as low as 25 per 1,000 live births (target 3.2);
- End the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases (target 3.3);
- Reduce by one third, premature mortality from non-communicable diseases (NCDs) through prevention and treatment and promote mental health and well-being (target 3.4).

Improving health services and providing cost-effective and high-impact interventions that address the needs of women and newborns across the continuum of care, with an emphasis on care around the time of birth, remains critical as means of saving lives.

Pneumonia, diarrhoea and malaria remain the leading causes of death among children under 5. Forty-five per cent of under-five deaths occur in the first month of life or neonatal period, when deaths are dominated by pregnancy-related factors, including preterm and intrapartum complications (ranging between 48 and 61 per cent of neonatal deaths across regions) and infections like sepsis, meningitis and pneumonia accounting (between 7 and 24 per cent). During the second through twelfth month of life or post-neonatal period, deaths from the leading infectious diseases (pneumonia, diarrhoea, malaria, meningitis, AIDS, measles) still account for nearly 70 per cent of the total in sub-Saharan Africa (Liu, 2014).

Yet many of these deaths are easily preventable through simple, cost-effective interventions administered before, during and immediately after birth (The Partnership for Maternal, Newborn and Child Health, 2011). Too many mothers and newborns still miss out on key interventions that can save their lives. Globally, only around half of all pregnant women receive the recommended minimum of four antenatal care visits. In 2014, about 29 per cent of births were delivered without the help of a skilled

health care provider. High quality care for pregnant women and newborns is often lacking, even for babies and mothers who have contact with the health system (UNICEF, 2015).

As this report has highlighted, socio-economic inequalities are closely associated with observed levels of child health and mortality. The strong association between mortality and various measures of socio-economic status (as measured by household wealth and mother's education) remains even after other potential causal factors are taken into account. Those factors include mother's age, urban/rural type of residence, and key characteristics of the child such as sex, birth order, length of previous birth interval). Therefor health policies that focus on reducing inequalities, as proposed by the United Nations Children Fund (UNICEF), seem more likely to yield large returns on the investments being made by countries, averting more child and maternal deaths than policies hat focused on improving overall levels of health and mortality without attention to the role of inequalities. While it is important to invest globally in maternal and child health, it is critical that these efforts target the most economically vulnerable children and their families.

The 2008 World Health Report identified raising the visibility of health inequities in public awareness and policy debates as a crucial step towards a strengthened emphasis on health equity within primary health care (WHO, 2008). Because malnutrition, ill health and the overall burden of disease are typically concentrated in the most disadvantaged populations, providing children in such settings with essential services can help to reduce disparities within countries and accelerate progress towards the achievement of health -related development goals (UNICEF, 2010; Carrera and others, 2012). Ensuring equal access to health care services can improve maternal and child survival in settings where health facilities are far removed from the dwellings (Mulholland and others, 2008), and for subpopulations that remain at high risk of death from preventable conditions (WHO, 2015a).

Mother and child survival are a shared responsibility across the public, private and civil society sectors. Better results can be obtained by them working together to improve nutrition, access to water and sanitation, health, education and other services. The latest update to the Global Strategy for Women's, Children's and Adolescents' Health for 2016-2030 (Every Woman Every Child, 2015) focuses on three overarching objectives—Survive, Thrive and Transform—and builds on the momentum of the powerful multi-stakeholder movement, Every Woman Every Child, that has developed over the past five years. The new strategy includes an emphasis on adolescents, as they are central to everything that should be achieved in the next decades and provides a road map to support country priorities and plans to insure that no woman, child or adolescent should face a greater risk of preventable death because of where they live or who they are.

Achievement of these health-related targets will require a holistic approach, as part of an integrated development agenda Progress toward these health objectives (SDG 3) must be supported by progress in other domains for example by improving living conditions (SDGs 1, 2), expanding access to education (SDG4), empowering women and girls (SDG5), increasing opportunities for employment and decent work (SDG8), building sustainable cities (SDG 11) and promoting peaceful and inclusive societies (SDG 16). (United Nations,2013).

In particular, progress toward the health-related targets will require a special emphasis on promoting social, economic and political inclusion of all, irrespective of age, sex, disability, race ethnicity, origin, religion or economic or other status (SDG 10.2). Persons with disability, for example, face higher risks of mortality than the rest of the population, especially in situations of disaster or crisis.

The mortality rate for those with disabilities can be as much as two to four times higher than their peers without disabilities. The Sendai Framework for Disaster Risk Reduction 2015-2030 includes persons with disabilities as beneficiaries and as agents of change. Implementation of the Framework should be integrated into the efforts to reduce the elevated mortality risks of persons with disabilities.

Similarly, achieving further reductions in mortality due to non-communicable diseases (NCDs), including for the more developed regions, will require an integrated approach taking into account demographic factors, such as population, ageing, and rapid urbanization, as well as behavioural factors, such as smoking, inactivity and unhealthy diets, and the forces driving them, including the marketing of consumer goods. Given that population ageing will be the dominant demographic trend globally over the next several decades, more and more countries will need to scale-up a range of cost-effective prevention and treatment options for NCDs, both at the individual and collective levels (WHO, 2015b).

The United Nations Political Declaration on NCDs, adopted by the General Assembly in 2011, and the United Nations Outcome Document on NCDs, adopted by the Assembly in 2014, include a road map of commitments made by governments. The Global Action Plan for the Prevention and Control of NCDs 2013-2020 (WHA Resolution A66/9), endorsed by the World Health Assembly in May 2013, provides a non-exhaustive menu of policy options and cost-effective interventions, focusing on the four categories of non-communicable disease that make the largest contribution to morbidity and mortality—cardiovascular diseases, cancer, chronic respiratory diseases and diabetes—and includes voluntary targets focusing on risk factors such as tobacco use, high blood pressure, high salt intake, obesity and physical inactivity, and on access to essential medicines, technologies, drug therapy and counselling.

The World Health Organization Framework Convention on Tobacco Control (WHO FCTC), ratified by 180 Parties representing 90 per cent of the global population, is the first public health treaty negotiated under the auspices of WHO. Sustainable Development Goal 3 target (3.a) commits governments to strengthen the implementation of the WHO FCTC in all countries. Effective country implementation of multisectoral control measures, such as raising taxes on tobacco and banning smoking in public places, are major success factors (WHO, 2015b).

Among many potential public health measures, the following five interventions, which are part of the World Health Assembly's NCD targets (WHA Resolution A66/8), would need to be in place by 2030 in order to come close to reaching the NCD target 3.4 of the SDGs (Nugent, 2015): (1) tobacco taxation at sufficiently high rates to achieve a 50 per cent relative reduction in user prevalence, (2) treatment of heart attacks by providing aspirin to 75 per cent of patients at the onset of an acute myocardial infarction (AMI), (3) a 30 per cent reduction in the mean dietary intake of salt through voluntary reformulation of processed foods, (4) management of hypertension by providing medicine to half of medium- to high-risk patients, and (5) an expanded strategy for secondary prevention of cardiovascular disease (70 per cent coverage and at least 60 per cent adherence to a multi-pill regimen for those at a high risk of a cardiovascular event).

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V. Annex: Summary mortality indicators in 1950-2015, by country or area

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Table A1

Life expectancy at birth (years)*

Country or area	Both sexes			Male		Female		Absolute difference, years (female - male)				
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
WORLD		46.8	70.5		45.4	68.3	48.3	72.7		3.0	4.5	
More developed regions ^a		64.7	78.3		62.1	75.1	67.2	81.5		5.1	6.4	
Less developed regions ^b		41.5	68.8		40.6	66.9	42.5	70.7		1.9	3.7	
Least developed countries ^c		36.1	62.2		35.0	60.7	37.4	63.6		2.4	2.9	
Other less developed countries ^d		42.3	70.2		41.5	68.3	43.3	72.1		1.8	3.8	
Less developed regions, excluding China		40.7	67.0		40.0	65.1	41.5	69.1		1.5	4.0	
High-income countries ^e		64.0	78.8		61.4	75.7	66.5	81.9		5.1	6.2	
Middle-income countries ^e		42.4	69.5		41.4	67.7	43.3	71.5		1.9	3.8	
Upper-middle-income countries ^e		44.9	73.8		43.5	71.8	46.5	76.0		3.1	4.2	
Lower-middle-income countries ^e		39.8	66.3		39.4	64.6	40.3	68.1		0.9	3.6	
Low-income countries ^e		35.0	60.3		33.5	58.7	36.4	61.9		2.9	3.2	
Sub-Saharan Africa ^f		36.2	57.2		34.9	55.9	37.5	58.4		2.5	2.5	
AFRICA		37.3	59.5		36.2	58.2	38.5	60.9		2.3	2.7	
Eastern Africa		37.0	60.5		35.6	58.9	38.4	62.2		2.8	3.3	
Burundi		39.0	56.1		37.5	54.2	40.6	58.0		3.1	3.9	
Comoros		38.7	62.8		37.5	61.2	40.0	64.5		2.5	3.3	
Djibouti		41.0	61.6		39.7	60.0	42.4	63.2		2.7	3.2	
Eritrea		35.8	63.1		33.9	60.9	37.9	65.2		4.0	4.3	
Ethiopia		34.1	63.1		32.8	61.3	35.4	65.0		2.6	3.7	
Kenya		42.3	60.6		40.5	59.1	44.2	62.2		3.6	3.1	
Madagascar		36.3	64.5		35.3	63.0	37.4	66.0		2.0	3.0	
Malawi		36.3	61.0		35.8	59.9	36.7	62.0		0.9	2.1	
Mauritius ¹		50.2	74.1		49.0	70.7	51.5	77.7		2.5	7.1	
Mayotte		47.3	79.3		44.9	76.0	50.6	82.9		5.7	6.9	
Mozambique		31.3	54.6		30.1	52.9	32.5	56.2		2.4	3.2	
Réunion		47.9	79.5		44.9	76.0	50.6	82.9		5.7	6.9	
Rwanda		40.0	63.1		38.5	59.7	41.6	66.3		3.1	6.7	
Seychelles		58.0	72.9		55.7	68.7	60.1	77.9		4.4	9.2	
Somalia		34.0	54.9		32.5	53.3	35.5	56.5		3.0	3.2	
South Sudan		27.9	55.1		26.6	54.1	29.3	56.0		2.7	1.9	
Uganda		40.0	57.2		38.5	55.7	41.6	58.8		3.1	3.2	
United Republic of Tanzania ²		41.2	64.0		39.6	62.6	42.9	65.6		3.3	3.0	
Zambia		42.1	58.8		40.6	57.2	43.6	60.3		3.0	3.2	
Zimbabwe		48.5	54.8		47.0	53.6	50.1	56.0		3.1	2.4	
Middle Africa		36.7	55.6		35.1	54.3	38.2	57.0		3.1	2.7	
Angola		30.0	51.7		28.6	50.2	31.5	53.2		2.9	3.0	
Cameroon		38.5	54.9		37.2	53.7	39.9	56.0		2.7	2.3	
Central African Republic		33.4	49.5		32.0	47.8	34.9	51.3		2.9	3.4	
Chad		36.1	51.1		33.4	50.1	38.9	52.2		5.5	2.1	
Congo		43.2	61.4		42.3	60.0	44.1	62.9		1.8	3.0	
Democratic Republic of the Congo		39.1	58.1		37.6	56.7	40.4	59.5		2.8	2.9	
Equatorial Guinea		34.5	57.1		33.0	55.9	36.0	58.6		3.0	2.7	
Gabon		37.0	63.7		35.5	63.2	38.6	64.1		3.1	0.9	
Sao Tome and Principe		46.4	66.2		45.1	64.2	48.0	68.2		2.9	4.0	
Northern Africa		42.3	70.5		41.4	68.6	43.2	72.4		1.8	3.8	
Algeria		42.9	74.4		42.3	72.1	43.5	76.8		1.3	4.7	
Egypt		41.1	70.8		40.6	68.7	41.6	73.1		1.0	4.3	
Libya		36.7	71.5		35.6	68.8	37.9	74.4		2.3	5.6	
Morocco		45.7	73.6		44.0	72.6	47.4	74.6		3.4	2.0	
Sudan		44.5	63.1		43.2	61.6	46.0	64.6		2.8	3.0	
Tunisia		38.8	74.6		37.8	72.3	39.9	77.0		2.1	4.7	
Western Sahara		35.5	67.6		34.0	65.9	37.1	69.8		3.1	3.9	

Table A1

Life expectancy at birth (years)*

Country or area	Both sexes			Male		Female		Absolute difference, years (female - male)			
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Southern Africa											
Botswana	44.7	57.1		43.6	55.0	45.8	59.0	2.2	4.1		
Lesotho	47.7	64.1		45.7	61.8	49.6	66.5	3.9	4.7		
Namibia	42.2	49.5		40.8	49.2	43.4	49.6	2.6	0.4		
South Africa	41.7	64.3		39.5	61.6	44.1	67.0	4.6	5.4		
Swaziland	45.0	57.1		44.0	54.9	46.0	59.1	2.0	4.3		
	41.4	49.2		39.4	49.7	43.4	48.5	4.0	-1.2		
Western Africa ³											
Benin	33.7	55.0		32.7	54.4	34.8	55.6	2.1	1.2		
Burkina Faso	33.7	59.2		33.6	57.8	33.9	60.6	0.3	2.8		
Cabo Verde	30.9	58.1		30.1	56.7	32.0	59.3	2.0	2.6		
Côte d'Ivoire	48.1	73.0		46.9	71.1	49.1	74.7	2.2	3.6		
Gambia	32.1	51.0		31.2	50.2	33.1	51.9	1.8	1.6		
Ghana	30.3	59.8		29.1	58.5	31.4	61.2	2.4	2.7		
Guinea	42.2	61.0		41.9	60.1	42.4	62.0	0.5	1.9		
Guinea-Bissau	33.1	58.0		32.0	57.6	34.2	58.5	2.3	0.9		
Liberia	35.9	54.7		34.5	53.0	37.3	56.5	2.8	3.5		
Mali	33.1	60.3		30.8	59.3	35.9	61.2	5.2	1.9		
Mauritania	27.0	57.2		26.3	57.4	27.7	57.0	1.4	-0.5		
Niger	38.6	62.8		38.5	61.3	38.7	64.3	0.2	3.0		
Nigeria	35.0	60.7		35.0	59.9	34.9	61.6	-0.1	1.7		
Senegal	34.0	52.3		32.7	52.0	35.4	52.6	2.7	0.6		
Sierra Leone	35.5	65.8		34.8	63.9	36.1	67.6	1.3	3.8		
Togo	28.8	50.2		27.1	49.7	30.6	50.7	3.5	1.1		
	35.3	59.0		34.5	58.3	36.1	59.7	1.6	1.4		
ASIA											
Eastern Asia											
China ⁴	42.1	71.6		41.3	69.7	43.0	73.6	1.7	3.8		
China, Hong Kong SAR ⁵	45.2	76.6		43.7	74.7	46.8	78.6	3.0	3.9		
China, Macao SAR ⁶	43.4	75.4		42.1	74.0	44.8	77.0	2.7	3.1		
Dem. People's Republic of Korea	63.2	83.7		59.0	80.9	66.4	86.6	7.4	5.7		
Japan	61.0	80.3		59.4	78.1	62.4	82.5	3.0	4.4		
Mongolia	58.2	79.3		56.4	76.4	60.0	82.3	3.6	5.9		
Republic of Korea	37.6	69.9		32.6	66.3	43.2	73.3	10.6	7.0		
Other non-specified areas	62.2	83.3		60.4	80.0	63.9	86.5	3.5	6.5		
	43.2	68.9		41.5	64.8	44.9	73.3	3.4	8.5		
	47.9	81.4		46.0	78.0	49.9	84.6	3.8	6.7		
South-Central Asia ⁷											
Central Asia											
Kazakhstan	37.5	67.8		37.8	66.3	37.1	69.3	-0.7	3.0		
Kyrgyzstan	54.6	68.4		50.6	64.5	58.9	72.3	8.3	7.8		
Tajikistan	55.1	69.1		50.2	64.3	60.7	73.9	10.5	9.6		
Turkmenistan	52.8	70.3		48.8	66.4	57.2	74.3	8.5	7.9		
Uzbekistan	53.0	69.1		50.8	65.9	55.6	72.8	4.9	6.9		
	51.3	65.4		47.9	61.3	55.1	69.7	7.2	8.4		
	55.8	68.2		52.4	64.9	59.4	71.6	7.0	6.7		
Southern Asia											
Afghanistan	37.0	67.7		37.5	66.4	36.5	69.2	-0.9	2.8		
Bangladesh	28.6	59.8		28.0	58.7	29.4	61.1	1.4	2.4		
Bhutan	40.7	71.0		40.3	69.9	41.1	72.3	0.8	2.4		
India	29.5	68.9		28.8	68.6	30.3	69.1	1.5	0.5		
Iran (Islamic Republic of)	36.6	67.5		37.2	66.1	36.0	68.9	-1.2	2.8		
Maldives	40.6	75.1		42.1	74.0	39.1	76.2	-3.1	2.2		
Nepal	34.5	76.4		34.0	75.4	34.8	77.4	0.8	2.0		
Pakistan	34.0	69.0		33.8	67.6	34.2	70.5	0.4	2.8		
Sri Lanka	37.1	65.9		36.7	65.0	37.4	66.8	0.7	1.9		
	54.5	74.6		53.1	71.2	56.8	78.0	3.7	6.8		

Table A1

Life expectancy at birth (years)*

Country or area	Both sexes			Male		Female		Absolute difference, years (female - male)		
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
South-Eastern Asia				44.5	67.5	48.5	73.2			
Brunei Darussalam				56.8	76.6	59.9	80.4			
Cambodia				39.0	65.5	41.7	69.6			
Indonesia				42.0	66.6	45.0	70.7			
Lao People's Democratic Republic				39.1	64.1	42.9	66.8			
Malaysia ⁸				53.9	72.2	55.8	76.9			
Myanmar				33.1	63.6	39.3	67.7			
Philippines				54.1	64.7	56.7	71.6			
Singapore				57.5	79.6	63.0	85.6			
Thailand				48.3	70.8	53.6	77.6			
Timor-Leste				29.6	66.1	30.4	69.5			
Viet Nam				50.8	70.7	56.5	80.3			
Western Asia				41.6	70.0	46.3	75.6			
Armenia				59.7	70.7	65.9	78.4			
Azerbaijan ⁹				54.4	67.5	61.5	73.8			
Bahrain				39.7	75.6	47.0	77.4			
Cyprus ¹⁰				64.8	77.7	68.7	82.2			
Georgia ¹¹				56.7	70.9	64.4	78.1			
Iraq				37.0	67.0	38.9	71.4			
Israel				67.5	80.2	70.3	83.8			
Jordan				47.1	72.2	45.9	75.5			
Kuwait				52.5	73.3	54.7	75.6			
Lebanon				58.9	77.1	62.2	80.9			
Oman				35.6	74.7	36.5	78.9			
Qatar				52.7	77.1	57.9	79.7			
Saudi Arabia				40.0	72.8	44.1	75.5			
State of Palestine ¹²				44.7	70.7	48.9	74.7			
Syrian Arab Republic				48.5	64.0	48.8	76.3			
Turkey				38.1	71.5	44.2	78.1			
United Arab Emirates				41.0	76.0	47.0	78.2			
Yemen				33.6	62.2	35.9	64.9			
EUROPE				60.9	73.4	66.1	80.6			
Eastern Europe				56.9	66.9	63.2	76.8			
Belarus				57.6	65.3	63.4	77.0			
Bulgaria				60.5	70.6	63.7	77.6			
Czech Republic				63.9	75.4	68.8	81.3			
Hungary				61.9	71.2	66.1	78.5			
Poland				58.6	73.1	64.2	81.1			
Republic of Moldova ¹³				55.0	67.2	63.0	75.4			
Romania				59.4	70.9	62.8	78.1			
Russian Federation				53.9	64.2	62.0	75.6			
Slovakia				62.5	72.2	66.3	79.7			
Ukraine ¹⁴				58.7	65.7	64.3	75.7			
Northern Europe ¹⁵				66.3	77.8	71.2	82.3			
Channel Islands ¹⁶				66.6	78.5	71.7	82.4			
Denmark				69.6	78.0	72.3	81.9			
Estonia				57.1	71.6	65.5	81.1			
Finland ¹⁷				62.7	77.6	69.3	83.4			
Iceland				69.9	80.7	74.3	83.8			
Ireland				65.4	78.4	68.1	82.7			
Latvia				58.2	68.9	65.9	78.7			
Lithuania				57.3	67.4	64.0	78.8			

Table A1

Life expectancy at birth (years)*

Country or area	Both sexes			Male		Female		Absolute difference, years (female - male)						
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)			
Norway ¹⁸		72.7		81.3		70.9	79.2	74.4	83.4		3.6		4.2	
Sweden		71.7		81.9		70.3	80.1	73.1	83.7		2.8		3.6	
United Kingdom		69.3		80.4		66.7	78.5	71.8	82.4		5.1		3.9	
Southern Europe ¹⁹		63.5		81.2		61.5	78.4	65.4	83.9		3.9		5.4	
Albania		55.3		77.5		54.4	75.0	56.1	80.2		1.7		5.1	
Bosnia and Herzegovina		53.7		76.3		52.6	73.7	54.7	78.8		2.0		5.1	
Croatia		61.3		77.0		59.3	73.6	63.1	80.4		3.8		6.7	
Greece		65.7		80.6		63.8	77.6	67.7	83.6		4.0		6.0	
Italy		66.3		82.8		64.4	80.3	68.1	85.2		3.7		5.0	
Malta		66.1		80.3		64.5	78.6	67.8	82.0		3.3		3.4	
Montenegro		59.8		76.0		58.1	73.8	61.3	78.2		3.2		4.4	
Portugal		59.7		80.5		57.0	77.4	62.3	83.5		5.3		6.1	
Serbia ²⁰		59.1		74.6		57.7	71.8	60.5	77.5		2.8		5.7	
Slovenia		65.6		80.1		63.0	76.9	68.1	83.1		5.1		6.2	
Spain ²¹		64.2		82.3		61.8	79.4	66.4	85.1		4.6		5.6	
TFYR Macedonia ²²		54.9		75.2		54.9	72.9	54.9	77.5		0.0		4.6	
Western Europe ²³		67.7		81.2		65.3	78.5	70.0	83.7		4.8		5.2	
Austria		66.3		81.1		63.6	78.5	68.8	83.6		5.2		5.1	
Belgium		67.6		80.5		65.1	78.0	70.1	83.0		5.0		5.1	
France		67.1		81.8		64.1	78.8	69.9	84.9		5.9		6.1	
Germany		67.5		80.6		65.3	78.2	69.6	83.1		4.3		4.9	
Luxembourg		66.0		81.3		63.2	78.9	69.0	83.7		5.9		4.7	
Netherlands		71.9		81.3		70.6	79.4	73.2	83.1		2.6		3.8	
Switzerland		69.3		82.7		67.0	80.4	71.6	84.7		4.6		4.3	
LATIN AMERICA AND THE CARIBBEAN		51.2		74.5		49.5	71.2	53.0	77.9		3.4		6.7	
Caribbean ²⁴		52.0		72.4		50.6	69.7	53.5	75.2		2.9		5.5	
Antigua and Barbuda		58.5		75.8		56.0	73.3	60.8	78.2		4.7		4.9	
Aruba		60.4		75.4		59.1	72.9	61.6	77.8		2.5		4.9	
Bahamas		60.0		75.1		58.5	72.0	61.4	78.1		3.0		6.1	
Barbados		57.2		75.4		54.7	72.9	59.3	77.7		4.5		4.8	
Cuba		59.4		79.2		57.8	77.1	61.3	81.3		3.5		4.2	
Curaçao		60.7		77.8		59.1	74.5	62.2	80.7		3.2		6.2	
Dominican Republic		46.0		73.2		44.7	70.2	47.3	76.5		2.6		6.3	
Grenada		56.3		73.2		54.4	70.8	57.9	75.6		3.4		4.8	
Guadeloupe ²⁵		53.3		80.5		51.5	76.8	54.9	84.0		3.4		7.2	
Haiti		37.5		62.3		36.2	60.2	38.8	64.4		2.5		4.2	
Jamaica		58.6		75.4		57.1	73.1	60.0	77.9		2.9		4.8	
Martinique		55.6		81.2		54.2	77.8	56.9	84.4		2.7		6.6	
Puerto Rico		63.5		79.2		61.5	75.2	65.7	83.2		4.1		8.0	
Saint Lucia		52.6		74.8		49.6	72.2	55.3	77.6		5.7		5.4	
Saint Vincent and the Grenadines		51.1		72.7		49.7	70.7	52.2	74.9		2.5		4.2	
Trinidad and Tobago		57.9		70.2		57.1	66.9	58.7	73.8		1.6		7.0	
United States Virgin Islands		59.2		80.0		57.7	77.2	60.7	82.9		3.0		5.7	
Central America		49.0		75.7		47.4	73.1	50.7	78.4		3.3		5.3	
Belize		55.9		69.8		54.6	67.2	57.3	72.7		2.7		5.5	
Costa Rica		56.0		79.2		54.8	76.7	57.3	81.7		2.5		5.0	
El Salvador		44.3		72.6		41.8	67.9	47.1	77.1		5.4		9.2	
Guatemala		42.0		71.5		41.8	67.9	42.3	75.0		0.5		7.1	
Honduras		41.8		72.8		40.5	70.4	43.1	75.4		2.6		5.0	
Mexico		50.7		76.5		48.9	74.0	52.5	78.9		3.6		4.9	
Nicaragua		42.3		74.5		40.9	71.4	43.7	77.5		2.8		6.1	
Panama		56.8		77.3		55.9	74.3	57.8	80.5		1.9		6.1	

Table A1

Life expectancy at birth (years)*

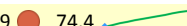
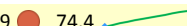
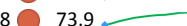
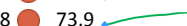
Country or area	Both sexes			Male		Female		Absolute difference, years (female - male)						
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)			
South America ²⁶		51.9		74.4		50.1	70.7	53.7	78.0		3.6		7.3	
Argentina		62.5		76.0		60.4	72.2	65.1	79.8		4.7		7.7	
Bolivia (Plurinational State of)		40.0		67.7		38.7	65.3	41.4	70.2		2.8		4.9	
Brazil		50.8		74.1		49.1	70.3	52.6	77.9		3.5		7.6	
Chile		53.6		81.2		51.2	78.1	56.1	84.1		4.8		6.0	
Colombia		50.6		73.7		49.0	70.2	52.3	77.4		3.4		7.2	
Ecuador		48.7		75.5		47.4	72.8	49.9	78.4		2.5		5.6	
French Guiana		53.3		79.0		50.3	75.8	56.9	82.6		6.6		6.8	
Guyana		58.8		66.3		56.2	64.0	61.6	68.6		5.4		4.6	
Paraguay		62.7		72.7		60.7	70.7	64.7	74.9		4.0		4.2	
Peru		43.9		74.2		42.9	71.5	45.0	76.8		2.1		5.3	
Suriname		56.0		70.9		54.4	67.8	57.7	74.2		3.3		6.4	
Uruguay		66.1		77.0		63.3	73.3	69.4	80.4		6.1		7.2	
Venezuela (Bolivarian Republic of)		54.8		73.9		53.5	69.9	56.3	78.2		2.8		8.3	
NORTHERN AMERICA ²⁷		68.6		79.2		65.8	76.8	71.7	81.5		5.8		4.7	
Canada		68.9		81.8		66.6	79.7	71.5	83.8		4.8		4.1	
United States of America		68.6		78.9		65.8	76.5	71.7	81.3		5.9		4.8	

Table A1

Life expectancy at birth (years)*

Country or area	Both sexes			Male		Female		Absolute difference, years (female - male)		
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OCEANIA	 60.4	 77.5		58.1	75.3	63.1	79.7	 4.9	 4.4	
Australia/New Zealand	 69.5	 82.0		66.9	79.9	72.2	84.1	 5.3	 4.2	
Australia ²⁸	 69.4	 82.1		66.8	79.9	72.3	84.3	 5.5	 4.3	
New Zealand	 69.7	 81.6		67.6	79.7	72.0	83.4	 4.4	 3.6	
Melanesia	 37.3	 64.0		36.3	61.9	38.5	66.3	 2.2	 4.4	
Fiji	 52.2	 69.7		50.1	66.9	54.7	72.9	 4.6	 6.0	
New Caledonia	 50.7	 76.2		49.6	73.6	52.1	79.3	 2.5	 5.8	
Papua New Guinea	 34.7	 62.3		33.8	60.3	35.7	64.5	 1.9	 4.2	
Solomon Islands	 45.4	 67.5		44.9	66.2	46.4	69.0	 1.5	 2.8	
Vanuatu	 41.9	 71.5		40.6	69.6	43.4	73.6	 2.8	 4.0	
Micronesia ²⁹	 53.5	 72.8		52.2	70.5	55.0	75.3	 2.8	 4.8	
Guam	 57.1	 78.7		55.4	76.1	59.7	81.5	 4.3	 5.3	
Kiribati	 46.4	 65.7		44.2	62.6	48.6	68.9	 4.4	 6.4	
Micronesia (Fed. States of)	 54.6	 68.9		54.1	68.0	55.2	69.9	 1.1	 1.9	
Polynesia ³⁰	 50.4	 74.3		48.6	71.7	52.5	77.1	 3.9	 5.4	
French Polynesia	 48.9	 76.1		48.0	74.0	50.0	78.6	 2.0	 4.6	
Samoa	 45.9	 73.0		43.0	70.0	49.6	76.4	 6.6	 6.4	
Tonga	 58.6	 72.6		58.5	69.7	58.7	75.6	 0.3	 5.8	

Legend:

Columns 2 and 3:

colored circles

< 50 = black
 50-59 = gray
 60-69 = light red
 70+ = red

Columns 4 and 11:

colored dot on time trend

minimum value = blue dot
 maximum value = red dot

Columns 9 and 10:

colored circles

< 25 percentile = black
 25-49 percentile = gray
 50-75 percentile = light red
 75+ percentile = red

(*) Source: United Nations, Department of Economic and Social Affairs, Population Division (2015). *World Population Prospects: The 2015 Revision, DVD Edition*. Accessed on 12 Nov. 2015 at: <http://esa.un.org/unpd/wpp/DVD/>

File MORT/7-1: Life expectancy at birth (both sexes combined) by major area, region and country, 1950-2100 (years)

POP/DB/WPP/Rev.2015/MORT/F07-1 > Estimates, 1950 - 2015

[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F07_1_LIFE_EXPECTANCY_0_BOTH_SEXES.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F07_1_LIFE_EXPECTANCY_0_BOTH_SEXES.XLS)

File MORT/7-2: Male life expectancy at birth by major area, region and country, 1950-2100 (years)

POP/DB/WPP/Rev.2015/MORT/F07-2 > Estimates, 1950 - 2015

[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F07_2_LIFE_EXPECTANCY_0_MALE.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F07_2_LIFE_EXPECTANCY_0_MALE.XLS)

File MORT/7-3: Female life expectancy at birth by major area, region and country, 1950-2100 (years)

POP/DB/WPP/Rev.2015/MORT/F07-3 > Estimates, 1950 - 2015

[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F07_3_LIFE_EXPECTANCY_0_FEMALE.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F07_3_LIFE_EXPECTANCY_0_FEMALE.XLS)

Table A2

Under-five mortality (deaths under age 5 per 1,000 live births)*

Country or area	Both sexes				Average annual change (1990-2015)		Male		Female	
	1950-55	1990-95	2010-15	1950-2015	Absolute	Per cent	1990-95	2010-15	1990-95	2010-15
	(1)	(2)	(3)	(4)	(6)	(7)	(8)	(9)	(10)	(11)
WORLD	215	91	50		-2.0	-2.3	93	52	88	47
More developed regions ^a	78	13	6		-0.3	-2.6	14	7	11	6
Less developed regions ^b	248	100	54		-2.3	-2.3	102	56	97	52
Least developed countries ^c	324	172	86		-4.3	-2.5	179	91	165	80
Other less developed countries ^d	237	83	45		-1.9	-2.3	85	46	81	43
Less developed regions, excluding China	268	112	61		-2.5	-2.3	114	63	109	58
High-income countries ^e	82	15	7		-0.4	-2.5	16	8	13	7
Middle-income countries ^e	241	89	48		-2.1	-2.3	91	49	87	46
Upper-middle-income countries ^e	208	53	24		-1.5	-2.7	56	26	49	22
Lower-middle-income countries ^e	277	113	60		-2.6	-2.3	114	62	112	59
Low-income countries ^e	319	186	91		-4.8	-2.6	193	96	178	85
Sub-Saharan Africa^f	307	184	99		-4.3	-2.3	193	104	175	92
AFRICA	310	167	90		-3.9	-2.3	175	95	159	84
Eastern Africa	301	183	79		-5.2	-2.8	191	85	174	73
Burundi	281	203	123		-4.0	-2.0	213	132	192	114
Comoros	288	114	78		-1.8	-1.6	120	83	107	72
Djibouti	261	120	83		-1.8	-1.5	126	89	114	78
Eritrea	292	130	60		-3.5	-2.7	139	63	121	56
Ethiopia	334	191	74		-5.8	-3.1	199	81	182	67
Kenya	248	109	78		-1.5	-1.4	116	85	101	71
Madagascar	295	152	55		-4.9	-3.2	158	58	147	51
Malawi	348	215	77		-6.9	-3.2	220	80	210	73
Mauritius ¹	168	21	14		-0.4	-1.7	24	15	18	13
Mayotte	222	17	5		-0.6	-3.6	19	5	15	4
Mozambique	366	229	99		-6.5	-2.8	240	108	217	91
Réunion	222	17	5		-0.6	-3.6	19	5	15	4
Rwanda	271	466	73		-19.7	-4.2	492	78	439	67
Seychelles	111	15	13		-0.1	-0.9	19	16	12	9
Somalia	335	222	131		-4.5	-2.0	232	138	211	124
South Sudan	408	220	122		-4.9	-2.2	229	127	210	117
Uganda	271	175	93		-4.1	-2.3	183	99	167	88
United Republic of Tanzania ²	259	165	51		-5.7	-3.4	173	55	156	48
Zambia	251	182	83		-4.9	-2.7	190	89	173	76
Zimbabwe	191	81	72		-0.5	-0.6	86	79	76	64
Middle Africa	305	188	126		-3.1	-1.6	197	132	178	119
Angola	375	253	156		-4.9	-1.9	270	164	236	147
Cameroon	286	144	115		-1.4	-1.0	151	122	137	108
Central African Republic	341	182	151		-1.6	-0.9	198	166	166	135
Chad	312	199	155		-2.2	-1.1	206	160	191	150
Congo	240	125	75		-2.5	-2.0	132	81	117	69
Democratic Republic of the Congo	281	182	115		-3.4	-1.8	190	120	174	110
Equatorial Guinea	329	184	109		-3.8	-2.0	193	115	175	103
Gabon	302	91	62		-1.5	-1.6	96	66	86	57
Sao Tome and Principe	210	87	63		-1.2	-1.4	94	69	81	56
Northern Africa	318	82	40		-2.1	-2.6	86	43	79	37
Algeria	278	60	36		-1.2	-2.0	63	44	57	27
Egypt	387	80	24		-2.8	-3.5	83	25	78	23
Libya	346	39	29		-0.5	-1.3	42	33	36	24
Morocco	252	68	32		-1.8	-2.7	72	34	64	29
Sudan	228	130	82		-2.4	-1.9	136	84	124	79
Tunisia	302	41	20		-1.0	-2.5	44	21	36	19
Western Sahara	323	106	46		-3.0	-2.8	113	52	99	40

Table A2

Under-five mortality (deaths under age 5 per 1,000 live births)*

Country or area	Both sexes				Average annual change (1990-2015)		Male		Female	
	1950-55	1990-95	2010-15	1950-2015	Absolute	Per cent	1990-95	2010-15	1990-95	2010-15
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Southern Africa	 176	 66	 52		-0.7	-1.0	74	59	59	45
Botswana	 201	 73	 40		-1.7	-2.3	80	45	66	35
Lesotho	 253	 94	 82		-0.6	-0.6	98	90	89	74
Namibia	 257	 81	 42		-1.9	-2.4	91	50	69	33
South Africa	 166	 63	 51		-0.6	-0.9	70	58	55	44
Swaziland	 260	 95	 92		-0.2	-0.2	101	99	89	84
Western Africa ³	 342	 202	 111		-4.6	-2.3	210	116	193	105
Benin	 349	 168	 108		-3.0	-1.8	188	117	148	99
Burkina Faso	 376	 204	 108		-4.8	-2.3	209	123	198	92
Cabo Verde	 197	 54	 24		-1.5	-2.8	58	26	49	21
Côte d'Ivoire	 394	 149	 105		-2.2	-1.5	160	114	138	96
Gambia	 383	 156	 83		-3.6	-2.3	164	89	147	77
Ghana	 249	 114	 78		-1.8	-1.6	120	83	109	72
Guinea	 346	 216	 101		-5.8	-2.7	222	106	209	95
Guinea-Bissau	 312	 204	 152		-2.6	-1.3	219	166	189	137
Liberia	 333	 234	 85		-7.4	-3.2	246	91	220	79
Mali	 428	 246	 122		-6.2	-2.5	253	128	239	117
Mauritania	 285	 123	 90		-1.6	-1.3	130	98	114	82
Niger	 325	 293	 104		-9.5	-3.2	297	108	289	100
Nigeria	 336	 213	 122		-4.6	-2.1	221	126	205	118
Senegal	 320	 138	 54		-4.2	-3.1	145	58	131	49
Sierra Leone	 420	 273	 134		-6.9	-2.5	289	141	256	127
Togo	 321	 142	 86		-2.8	-2.0	152	92	132	80
ASIA	 238	 83	 39		-2.2	-2.7	84	40	82	38
Eastern Asia	 194	 46	 13		-1.7	-3.6	49	14	44	12
China ⁴	 205	 50	 14		-1.8	-3.6	52	14	47	13
China, Hong Kong SAR ⁵	 87	 7	 3		-0.2	-3.1	7	3	7	2
China, Macao SAR ⁶	 90	 14	 5		-0.4	-3.0	16	7	12	4
Dem. People's Republic of Korea	 110	 8	 5		-0.1	-1.8	9	6	8	5
Japan	 203	 56	 28		-1.4	-2.5	59	30	54	26
Mongolia	 77	 6	 3		-0.2	-2.5	7	3	6	3
Republic of Korea	 294	 91	 32		-3.0	-3.3	98	35	85	28
Other non-specified areas	 194	 13	 4		-0.5	-3.6	14	4	12	3
South-Central Asia ⁷	 286	 115	 55		-3.0	-2.6	113	55	117	56
Central Asia	 165	 77	 42		-1.8	-2.3	84	47	70	37
Kazakhstan	 144	 61	 17		-2.2	-3.6	68	20	53	15
Kyrgyzstan	 175	 72	 23		-2.5	-3.4	79	25	65	21
Tajikistan	 218	 115	 51		-3.2	-2.8	121	56	108	46
Turkmenistan	 193	 96	 60		-1.8	-1.9	105	67	86	52
Uzbekistan	 160	 72	 53		-0.9	-1.3	78	60	65	46
Southern Asia	 290	 116	 56		-3.0	-2.6	114	55	119	56
Afghanistan	 407	 163	 99		-3.2	-2.0	167	102	158	95
Bangladesh	 328	 129	 41		-4.4	-3.4	132	44	126	38
Bhutan	 395	 125	 37		-4.4	-3.5	131	41	119	34
India	 279	 116	 53		-3.1	-2.7	111	51	120	55
Iran (Islamic Republic of)	 298	 50	 17		-1.7	-3.3	51	18	49	16
Maldives	 381	 82	 11		-3.6	-4.4	87	12	76	9
Nepal	 340	 124	 40		-4.2	-3.4	125	42	124	37
Pakistan	 349	 132	 87		-2.3	-1.7	135	90	130	83
Sri Lanka	 144	 26	 10		-0.8	-3.1	28	10	23	9

Table A2

Under-five mortality (deaths under age 5 per 1,000 live births)*

Country or area	Both sexes				Average annual change (1990-2015)		Male		Female	
	1950-55	1990-95	2010-15	1950-2015	Absolute	Per cent	1990-95	2010-15	1990-95	2010-15
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
South-Eastern Asia	237	63	30		-1.6	-2.6	69	34	57	27
Brunei Darussalam	112	16	5		-0.5	-3.5	16	5	15	4
Cambodia	213	119	35		-4.2	-3.5	126	39	111	31
Indonesia	299	73	30		-2.1	-2.9	79	34	67	27
Lao People's Democratic Republic	265	137	60		-3.8	-2.8	143	63	130	57
Malaysia ⁸	137	16	8		-0.4	-2.3	16	9	15	7
Myanmar	318	101	60		-2.1	-2.0	111	67	90	52
Philippines	137	48	30		-0.9	-1.8	53	34	43	26
Singapore	85	6	2		-0.2	-3.1	6	2	5	2
Thailand	189	31	13		-0.9	-2.9	35	15	27	11
Timor-Leste	389	174	56		-5.9	-3.4	183	60	165	51
Viet Nam	158	46	24		-1.1	-2.4	51	27	40	21
Western Asia	269	62	31		-1.6	-2.5	67	33	57	28
Armenia	97	53	16		-1.8	-3.5	57	18	48	14
Azerbaijan ⁹	174	100	47		-2.6	-2.6	110	51	89	43
Bahrain	268	19	9		-0.5	-2.5	19	10	18	8
Cyprus ¹⁰	78	11	5		-0.3	-2.7	12	6	10	4
Georgia ¹¹	90	49	16		-1.6	-3.3	53	18	45	15
Iraq	327	48	38		-0.5	-1.1	51	41	45	34
Israel	49	10	4		-0.3	-2.8	11	5	9	4
Jordan	239	34	20		-0.7	-2.1	35	21	33	18
Kuwait	193	16	11		-0.3	-1.6	18	12	15	10
Lebanon	94	30	11		-1.0	-3.2	32	11	28	11
Oman	359	40	9		-1.6	-3.9	43	9	38	8
Qatar	163	18	8		-0.5	-2.9	19	8	18	8
Saudi Arabia	300	39	17		-1.1	-2.8	41	17	36	16
State of Palestine ¹²	209	41	24		-0.8	-2.0	44	27	37	21
Syrian Arab Republic	211	32	21		-0.5	-1.7	34	23	29	19
Turkey	293	73	19		-2.7	-3.7	80	21	64	16
United Arab Emirates	269	19	7		-0.6	-3.1	21	8	17	6
Yemen	371	119	73		-2.3	-1.9	124	76	114	70
EUROPE	94	15	6		-0.4	-2.9	17	7	13	6
Eastern Europe	122	23	9		-0.7	-3.0	26	11	20	8
Belarus	128	18	5		-0.6	-3.6	21	6	15	4
Bulgaria	118	19	11		-0.4	-2.2	21	12	17	9
Czech Republic	54	11	3		-0.4	-3.6	12	4	10	2
Hungary	83	15	6		-0.5	-3.2	17	6	13	5
Poland	92	18	5		-0.6	-3.5	20	6	16	5
Republic of Moldova ¹³	101	35	13		-1.1	-3.1	39	15	30	12
Romania	113	29	13		-0.8	-2.8	32	14	25	12
Russian Federation	142	26	10		-0.8	-3.0	30	12	22	9
Slovakia	86	14	6		-0.4	-2.8	15	7	12	5
Ukraine ¹⁴	113	21	11		-0.5	-2.4	24	12	18	9
Northern Europe ¹⁵	42	9	5		-0.2	-2.4	10	5	8	4
Channel Islands ¹⁶	40	16	9		-0.3	-2.1	18	9	14	9
Denmark	33	8	4		-0.2	-2.3	9	4	7	4
Estonia	112	20	4		-0.8	-3.9	22	5	17	4
Finland ¹⁷	42	6	3		-0.2	-2.6	7	3	6	3
Iceland	27	6	3		-0.2	-2.8	7	3	5	2
Ireland	50	8	4		-0.2	-2.8	9	4	7	3
Latvia	107	21	8		-0.7	-3.2	24	9	19	7
Lithuania	138	20	5		-0.7	-3.8	22	5	17	4

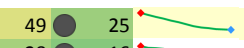
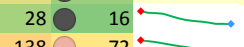
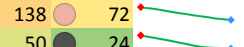
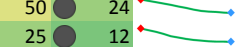
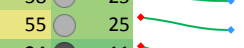
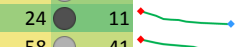
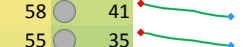
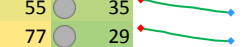
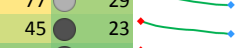
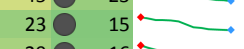
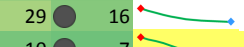
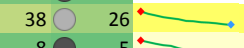
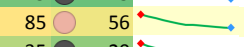
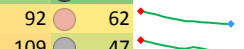
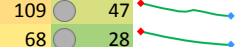
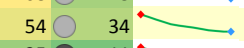
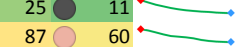
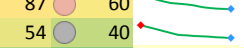
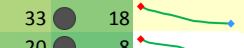
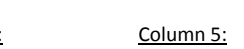
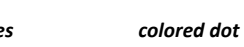
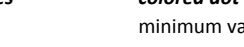
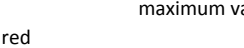
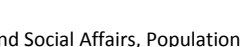
Table A2

Under-five mortality (deaths under age 5 per 1,000 live births)*

Country or area	Both sexes				Average annual change (1990-2015)		Male		Female				
	1950-55	1990-95	2010-15	1950-2015	Absolute	Per cent	1990-95	2010-15	1990-95	2010-15			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
Norway ¹⁸		30		7		3		-0.2	-2.9	8	3	7	3
Sweden		24		6		3		-0.2	-2.4	7	4	6	3
United Kingdom		34		8		5		-0.2	-2.0	9	5	7	5
Southern Europe ¹⁹		97		12		4		-0.4	-3.2	14	5	11	4
Albania		194		37		16		-1.1	-2.9	40	17	34	15
Bosnia and Herzegovina		203		22		9		-0.6	-2.9	23	10	20	8
Croatia		104		12		5		-0.3	-2.9	12	6	12	4
Greece		58		9		4		-0.3	-3.1	10	4	9	3
Italy		75		9		3		-0.3	-3.5	10	3	8	3
Malta		56		11		6		-0.3	-2.4	12	6	11	6
Montenegro		133		20		8		-0.6	-3.1	21	8	20	7
Portugal		137		12		4		-0.4	-3.4	14	4	11	3
Serbia ²⁰		136		20		12		-0.4	-2.1	23	13	18	10
Slovenia		29		9		3		-0.3	-3.1	10	4	8	3
Spain ²¹		83		8		4		-0.2	-2.9	9	4	8	3
TFYR Macedonia ²²		155		29		11		-0.9	-3.2	31	12	28	9
Western Europe ²³		52		8		4		-0.2	-2.5	9	4	7	4
Austria		64		9		4		-0.2	-2.8	10	4	8	3
Belgium		53		9		4		-0.3	-2.8	11	5	8	4
France		54		8		4		-0.2	-2.6	9	4	7	4
Germany		55		8		4		-0.2	-2.5	9	4	7	3
Luxembourg		55		9		2		-0.3	-3.8	9	2	8	2
Netherlands		30		8		4		-0.2	-2.3	9	5	7	4
Switzerland		36		7		4		-0.2	-2.2	8	4	7	4
LATIN AMERICA AND THE CARIBBEAN		190		49		26		-1.2	-2.4	54	29	44	22
Caribbean ²⁴		185		62		39		-1.1	-1.8	66	43	58	36
Antigua and Barbuda		115		23		11		-0.6	-2.5	28	15	17	7
Aruba		95		22		17		-0.2	-1.1	26	19	18	15
Bahamas		98		23		13		-0.5	-2.1	26	14	20	12
Barbados		121		20		11		-0.5	-2.3	22	12	19	10
Cuba		113		14		7		-0.4	-2.5	16	8	12	6
Curaçao		87		17		12		-0.3	-1.5	20	14	15	10
Dominican Republic		252		55		28		-1.3	-2.4	61	32	49	24
Grenada		141		24		13		-0.5	-2.2	25	14	23	12
Guadeloupe ²⁵		134		16		6		-0.5	-3.0	18	7	14	6
Haiti		331		127		77		-2.5	-2.0	132	83	122	71
Jamaica		118		27		18		-0.5	-1.7	29	19	25	17
Martinique		114		17		7		-0.5	-2.8	19	9	14	6
Puerto Rico		75		14		7		-0.3	-2.4	15	8	12	7
Saint Lucia		199		24		15		-0.5	-2.0	29	17	20	12
Saint Vincent and the Grenadines		166		28		21		-0.4	-1.3	35	25	21	17
Trinidad and Tobago		109		34		31		-0.2	-0.5	39	34	30	27
United States Virgin Islands		77		18		11		-0.3	-1.9	19	9	17	12
Central America		205		46		25		-1.1	-2.3	50	28	42	21
Belize		136		37		17		-1.0	-2.7	39	18	34	15
Costa Rica		154		18		11		-0.3	-1.8	19	12	15	10
El Salvador		230		53		20		-1.7	-3.1	58	21	48	18
Guatemala		259		74		32		-2.1	-2.9	78	37	70	26
Honduras		277		60		40		-1.0	-1.7	66	45	54	35
Mexico		193		40		23		-0.9	-2.1	44	26	37	20
Nicaragua		254		62		24		-1.9	-3.1	69	26	54	21
Panama		128		33		20		-0.7	-2.0	38	22	28	17

Table A2

Under-five mortality (deaths under age 5 per 1,000 live births)*

Country or area	Both sexes				Average annual change (1990-2015)		Male		Female				
	1950-55	1990-95	2010-15	1950-2015	Absolute	Per cent	1990-95	2010-15	1990-95	2010-15			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
South America²⁶		185		49		25		-1.2	-2.5	54	28	44	21
Argentina		84		28		16		-0.6	-2.2	31	18	25	14
Bolivia (Plurinational State of)		298		138		72		-3.3	-2.4	147	77	128	67
Brazil		190		50		24		-1.3	-2.5	54	28	45	20
Chile		180		25		12		-0.7	-2.6	30	13	20	10
Colombia		189		38		25		-0.6	-1.7	42	29	34	22
Ecuador		206		55		25		-1.5	-2.7	60	27	49	24
French Guiana		149		24		11		-0.7	-2.7	30	13	18	9
Guyana		97		58		41		-0.8	-1.4	63	47	52	35
Paraguay		102		55		35		-1.0	-1.8	62	40	47	29
Peru		269		77		29		-2.4	-3.1	85	33	70	25
Suriname		114		45		23		-1.1	-2.4	51	25	38	21
Uruguay		64		23		15		-0.4	-1.7	26	17	20	13
Venezuela (Bolivarian Republic of)		150		29		16		-0.7	-2.2	32	18	26	14
NORTHERN AMERICA²⁷		37		10		7		-0.2	-1.7	11	8	9	6
Canada		45		8		5		-0.1	-1.5	8	6	7	5
United States of America		36		11		7		-0.2	-1.7	12	8	9	6
OCEANIA		91		38		26		-0.6	-1.6	41	27	35	25
Australia/New Zealand		31		8		5		-0.2	-2.2	9	5	7	4
Australia ²⁸		30		8		5		-0.2	-2.1	9	5	7	4
New Zealand		34		9		5		-0.2	-2.2	11	6	8	5
Melanesia		235		85		56		-1.4	-1.7	91	57	78	56
Fiji		151		35		20		-0.7	-2.1	37	22	32	18
New Caledonia		171		29		15		-0.7	-2.4	36	17	22	13
Papua New Guinea		254		92		62		-1.5	-1.6	98	63	84	62
Solomon Islands		219		109		47		-3.1	-2.8	107	50	111	44
Vanuatu		254		68		28		-2.0	-2.9	71	32	64	24
Micronesia²⁹		149		54		34		-1.0	-1.8	59	39	48	29
Guam		117		25		11		-0.7	-2.7	29	12	20	10
Kiribati		213		87		60		-1.4	-1.6	102	74	71	45
Micronesia (Fed. States of)		139		54		40		-0.7	-1.3	52	40	56	40
Polynesia³⁰		132		33		18		-0.7	-2.2	35	19	30	18
French Polynesia		142		20		8		-0.6	-3.1	21	8	19	7
Samoa		160		45		23		-1.1	-2.4	49	24	41	23
Tonga		80		32		24		-0.4	-1.2	28	24	36	25

Legend:

Columns 2-4:

colored circles

< 25 = black
 25-49 = gray
 50-99 = light red
 100+ = red

cell color shading by mortality level

green = low
 red = high

Column 5:

colored dot on time trend

minimum value = blue dot
 maximum value = red dot

Columns 6-7:

cell color shading by pace of decline

light blue = slower pace of decline
 dark blue = fastest pace of decline

(*) Source: United Nations, Department of Economic and Social Affairs, Population Division (2015). *World Population Prospects: The 2015 Revision, DVD Edition*. Accessed on 12 Nov. 2015 at: <http://esa.un.org/unpd/wpp/DVD/>

File MORT/1-2: Under-five mortality (both sexes combined) by major area, region and country, 1950-2100 (deaths under age five per 1,000 live births). POP/DB/WPP/Rev.2015/MORT/F01-2 > Estimates, 1950 - 2015

[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F01_2_Q5_BOTH_SEXES.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F01_2_Q5_BOTH_SEXES.XLS)

Table A3

Infant mortality rate (deaths under age 1 per 1,000 live births)*

Country or area	Both sexes				Average annual change (1990-2015)		Male		Female	
	1950-55	1990-95	2010-15	1950-2015	Absolute	Per cent	1990-95	2010-15	1990-95	2010-15
	(1)	(2)	(3)	(4)	(6)	(7)	(8)	(9)	(10)	(11)
WORLD	142	63	36		-1.4	-2.2	66	38	59	34
More developed regions ^a	60	11	5		-0.3	-2.6	12	6	9	5
Less developed regions ^b	161	69	39		-1.5	-2.2	73	41	65	37
Least developed countries ^c	203	107	57		-2.5	-2.3	114	62	99	53
Other less developed countries ^d	155	60	33		-1.3	-2.2	63	35	57	32
Less developed regions, excluding China	177	76	44		-1.6	-2.1	80	46	72	41
High-income countries ^e	62	12	6		-0.3	-2.4	13	7	10	6
Middle-income countries ^e	158	64	35		-1.4	-2.2	67	37	60	34
Upper-middle-income countries ^e	135	42	19		-1.2	-2.8	45	20	39	17
Lower-middle-income countries ^e	183	79	44		-1.7	-2.2	82	46	75	42
Low-income countries ^e	195	113	60		-2.7	-2.4	120	64	105	55
Sub-Saharan Africa^f	183	111	64		-2.4	-2.1	118	69	103	59
AFRICA	187	102	59		-2.2	-2.1	109	63	95	54
Eastern Africa	180	113	53		-3.0	-2.6	121	58	105	48
Burundi	167	121	78		-2.1	-1.8	130	85	111	70
Comoros	193	81	58		-1.1	-1.4	88	63	74	53
Djibouti	154	76	55		-1.0	-1.4	81	60	71	50
Eritrea	200	90	46		-2.2	-2.4	97	49	83	44
Ethiopia	200	114	50		-3.2	-2.8	122	55	106	45
Kenya	147	72	52		-1.0	-1.3	78	58	66	47
Madagascar	183	100	37		-3.2	-3.2	105	39	95	35
Malawi	198	139	60		-4.0	-2.8	145	63	133	57
Mauritius ¹	103	18	12		-0.3	-1.8	21	13	16	11
Mayotte	142	14	4		-0.5	-3.5	15	5	12	4
Mozambique	220	135	64		-3.5	-2.6	145	71	125	58
Réunion	142	14	4		-0.5	-3.5	15	5	12	4
Rwanda	161	289	49		-12.0	-4.1	314	54	261	45
Seychelles	85	12	10		-0.1	-0.6	14	13	9	7
Somalia	200	130	79		-2.5	-1.9	139	85	120	74
South Sudan	249	130	78		-2.6	-2.0	139	82	121	73
Uganda	161	110	61		-2.4	-2.2	117	66	103	56
United Republic of Tanzania ²	153	103	37		-3.3	-3.2	111	40	95	34
Zambia	148	115	55		-3.0	-2.6	122	60	107	50
Zimbabwe	115	59	48		-0.5	-0.9	63	54	55	43
Middle Africa	183	113	79		-1.7	-1.5	122	85	104	73
Angola	231	151	96		-2.7	-1.8	164	104	136	89
Cameroon	170	90	74		-0.8	-0.9	96	79	83	67
Central African Republic	204	112	93		-0.9	-0.8	123	104	100	82
Chad	186	119	96		-1.2	-1.0	127	101	111	90
Congo	142	80	51		-1.5	-1.8	86	55	73	46
Democratic Republic of the Congo	167	110	73		-1.8	-1.7	117	78	102	68
Equatorial Guinea	197	111	70		-2.0	-1.8	119	75	102	65
Gabon	180	60	43		-0.8	-1.4	64	47	56	39
Sao Tome and Principe	125	58	44		-0.7	-1.2	63	48	52	39
Northern Africa	201	59	30		-1.5	-2.5	62	32	55	27
Algeria	163	48	30		-0.9	-1.8	51	37	44	23
Egypt	249	60	19		-2.0	-3.4	62	20	57	18
Libya	254	33	24		-0.4	-1.3	36	28	30	20
Morocco	151	53	26		-1.3	-2.5	57	29	49	24
Sudan	135	80	53		-1.3	-1.7	85	56	74	51
Tunisia	232	35	19		-0.8	-2.3	38	19	32	18
Western Sahara	217	76	37		-1.9	-2.5	83	42	69	32

Table A3

Infant mortality rate (deaths under age 1 per 1,000 live births)*

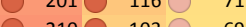
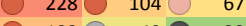
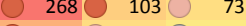
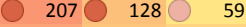
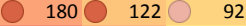
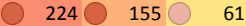
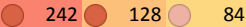
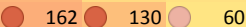
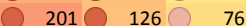
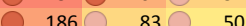
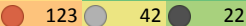
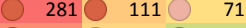
Country or area	Both sexes				Average annual change (1990-2015)		Male		Female	
	1950-55	1990-95	2010-15	1950-2015	Absolute	Per cent	1990-95	2010-15	1990-95	2010-15
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Southern Africa		117	51	40	-0.6	-1.1	56	44	45	34
Botswana		135	57	32	-1.2	-2.1	63	37	50	28
Lesotho		169	69	60	-0.5	-0.7	74	67	64	53
Namibia		172	60	34	-1.3	-2.2	69	40	51	27
South Africa		110	48	38	-0.5	-1.0	53	43	43	33
Swaziland		174	69	65	-0.2	-0.3	75	71	63	58
Western Africa ³		201	116	71	-2.3	-2.0	124	75	109	66
Benin		210	103	69	-1.7	-1.7	116	76	88	61
Burkina Faso		228	104	67	-1.9	-1.8	109	73	99	60
Cabo Verde		132	42	20	-1.1	-2.6	46	22	38	18
Côte d'Ivoire		268	103	73	-1.5	-1.4	113	81	93	66
Gambia		156	75	47	-1.4	-1.9	78	49	73	45
Ghana		147	73	51	-1.1	-1.5	76	54	69	48
Guinea		207	128	59	-3.5	-2.7	137	59	120	59
Guinea-Bissau		180	122	92	-1.5	-1.2	130	100	112	84
Liberia		224	155	61	-4.7	-3.0	167	66	141	56
Mali		242	128	84	-2.2	-1.7	134	96	122	71
Mauritania		148	80	67	-0.6	-0.8	83	75	77	59
Niger		162	130	60	-3.5	-2.7	134	65	125	55
Nigeria		201	126	76	-2.5	-2.0	133	80	118	72
Senegal		128	72	44	-1.4	-1.9	76	48	67	40
Sierra Leone		237	161	94	-3.3	-2.1	177	100	143	89
Togo		186	83	50	-1.7	-2.0	90	55	77	45
ASIA		157	62	31	-1.5	-2.5	64	32	59	30
Eastern Asia		123	37	11	-1.3	-3.5	39	12	35	10
China ⁴		129	40	12	-1.4	-3.6	43	12	38	11
China, Hong Kong SAR ⁵		62	5	2	-0.2	-3.2	5	2	5	2
China, Macao SAR ⁶		66	11	4	-0.3	-3.1	11	5	10	3
Dem. People's Republic of Korea		79	5	4	-0.1	-1.1	6	4	5	4
Japan		123	42	22	-1.0	-2.4	44	24	40	20
Mongolia		50	4	2	-0.1	-2.5	5	2	4	2
Republic of Korea		183	68	26	-2.1	-3.1	73	28	62	23
Other non-specified areas		138	10	3	-0.3	-3.5	10	3	9	3
South-Central Asia ⁷		194	83	44	-1.9	-2.4	85	45	80	43
Central Asia		127	63	34	-1.5	-2.3	69	38	57	29
Kazakhstan		110	51	14	-1.8	-3.6	57	16	44	12
Kyrgyzstan		140	60	20	-2.0	-3.4	65	21	54	18
Tajikistan		160	88	40	-2.4	-2.7	93	44	84	36
Turkmenistan		150	76	47	-1.4	-1.9	83	53	68	40
Uzbekistan		125	59	44	-0.8	-1.3	65	50	53	37
Southern Asia		197	83	44	-2.0	-2.4	86	45	81	43
Afghanistan		281	111	71	-2.0	-1.8	117	75	105	67
Bangladesh		221	90	33	-2.9	-3.2	96	36	84	30
Bhutan		269	76	30	-2.3	-3.0	81	34	70	27
India		186	82	41	-2.0	-2.5	83	41	80	42
Iran (Islamic Republic of)		220	40	15	-1.3	-3.1	41	16	38	14
Maldives		269	61	9	-2.6	-4.3	66	10	55	8
Nepal		229	88	32	-2.8	-3.2	91	35	84	30
Pakistan		256	102	70	-1.6	-1.6	107	74	96	65
Sri Lanka		89	20	8	-0.6	-2.9	22	9	18	7

Table A3

Infant mortality rate (deaths under age 1 per 1,000 live births)*

Country or area	Both sexes				Average annual change (1990-2015)		Male		Female	
	1950-55	1990-95	2010-15	1950-2015	Absolute	Per cent	1990-95	2010-15	1990-95	2010-15
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
South-Eastern Asia		157	47	24	-1.2	-2.4	52	27	42	21
Brunei Darussalam		81	13	4	-0.4	-3.4	13	5	12	4
Cambodia		143	86	30	-2.8	-3.3	94	33	78	26
Indonesia		193	56	25	-1.6	-2.8	62	28	51	22
Lao People's Democratic Republic		177	96	47	-2.4	-2.6	103	50	88	43
Malaysia ⁸		102	12	7	-0.3	-2.2	13	8	11	6
Myanmar		214	73	46	-1.3	-1.8	82	52	63	40
Philippines		97	36	23	-0.6	-1.8	40	26	32	21
Singapore		61	5	2	-0.1	-3.1	5	2	4	1
Thailand		128	26	11	-0.7	-2.8	29	13	23	10
Timor-Leste		265	119	44	-3.7	-3.2	128	48	109	39
Viet Nam		104	34	19	-0.7	-2.1	38	22	29	17
Western Asia		192	48	24	-1.2	-2.5	52	27	43	22
Armenia		83	44	13	-1.5	-3.5	48	15	40	11
Azerbaijan ⁹		120	82	40	-2.1	-2.6	88	42	75	36
Bahrain		173	15	7	-0.4	-2.7	15	8	15	6
Cyprus ¹⁰		65	9	4	-0.2	-2.7	10	5	8	4
Georgia ¹¹		80	45	14	-1.6	-3.5	48	15	41	12
Iraq		225	37	32	-0.2	-0.6	39	35	34	29
Israel		39	8	3	-0.2	-2.9	9	4	8	3
Jordan		147	29	17	-0.6	-2.1	31	19	27	15
Kuwait		124	13	9	-0.2	-1.6	14	10	12	8
Lebanon		68	25	9	-0.8	-3.2	27	9	23	9
Oman		211	31	7	-1.2	-3.8	32	8	29	7
Qatar		106	15	6	-0.4	-2.8	15	7	14	6
Saudi Arabia		202	30	15	-0.8	-2.5	33	16	28	15
State of Palestine ¹²		140	33	21	-0.6	-1.9	36	23	30	18
Syrian Arab Republic		141	26	18	-0.4	-1.6	29	20	23	16
Turkey		218	56	13	-2.2	-3.9	64	15	48	11
United Arab Emirates		181	16	6	-0.5	-3.1	18	7	15	5
Yemen		251	84	54	-1.5	-1.8	89	58	78	49
EUROPE		72	13	5	-0.4	-2.9	14	6	11	5
Eastern Europe		90	19	8	-0.6	-3.0	22	9	17	7
Belarus		96	15	4	-0.6	-3.7	17	5	13	3
Bulgaria		92	15	9	-0.3	-2.1	17	10	13	8
Czech Republic		46	9	2	-0.3	-3.7	11	3	8	2
Hungary		72	13	5	-0.4	-3.2	15	5	12	4
Poland		79	16	5	-0.6	-3.6	18	5	15	4
Republic of Moldova ¹³		81	29	11	-0.9	-3.1	33	12	25	10
Romania		91	23	10	-0.7	-2.9	25	10	20	9
Russian Federation		101	22	8	-0.7	-3.1	25	9	19	7
Slovakia		74	12	5	-0.3	-2.9	13	5	10	4
Ukraine ¹⁴		79	17	9	-0.4	-2.3	20	10	14	8
Northern Europe ¹⁵		34	7	4	-0.2	-2.4	8	4	6	3
Channel Islands ¹⁶		32	14	8	-0.3	-2.1	16	8	11	8
Denmark		28	6	3	-0.1	-2.3	7	3	6	4
Estonia		85	16	3	-0.7	-4.0	18	4	14	3
Finland ¹⁷		34	5	2	-0.1	-2.8	6	2	5	2
Iceland		21	5	2	-0.1	-2.9	6	2	4	2
Ireland		41	7	3	-0.2	-2.8	8	3	6	3
Latvia		77	18	6	-0.6	-3.2	19	7	16	6
Lithuania		108	16	4	-0.6	-3.9	18	4	15	3

Table A3

Infant mortality rate (deaths under age 1 per 1,000 live births)*

Country or area	Both sexes				Average annual change (1990-2015)		Male		Female		
	1950-55	1990-95	2010-15	1950-2015	Absolute	Per cent	1990-95	2010-15	1990-95	2010-15	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Norway ¹⁸		22	6	3		-0.2	-2.9	7	3	5	2
Sweden		20	5	3		-0.1	-2.4	6	3	5	2
United Kingdom		29	7	4		-0.1	-2.0	8	5	6	4
Southern Europe ¹⁹		78	10	4		-0.3	-3.2	11	4	9	3
Albania		145	31	14		-0.8	-2.7	33	15	28	14
Bosnia and Herzegovina		189	18	8		-0.5	-2.9	20	8	16	7
Croatia		96	10	4		-0.3	-3.1	10	4	10	3
Greece		46	8	3		-0.3	-3.3	9	3	8	3
Italy		60	8	2		-0.3	-3.5	8	2	7	2
Malta		51	10	5		-0.2	-2.5	11	6	8	4
Montenegro		120	18	4		-0.7	-3.8	18	5	18	4
Portugal		93	10	3		-0.3	-3.3	11	4	8	3
Serbia ²⁰		118	17	10		-0.4	-2.2	19	11	15	8
Slovenia		23	7	3		-0.2	-3.0	8	3	6	3
Spain ²¹		65	7	3		-0.2	-2.7	7	3	6	3
TFYR Macedonia ²²		136	27	10		-0.8	-3.1	28	11	25	9
Western Europe ²³		44	7	3		-0.2	-2.5	7	4	6	3
Austria		55	7	3		-0.2	-2.8	8	4	6	3
Belgium		46	8	3		-0.2	-2.9	9	4	7	3
France		46	7	3		-0.2	-2.5	8	4	6	3
Germany		46	6	3		-0.2	-2.5	7	3	5	3
Luxembourg		43	7	2		-0.3	-3.9	7	2	7	1
Netherlands		23	6	3		-0.1	-2.2	7	4	5	3
Switzerland		29	6	4		-0.1	-2.0	7	4	5	4
LATIN AMERICA AND THE CARIBBEAN		127	39	20		-1.0	-2.4	43	23	35	17
Caribbean ²⁴		125	46	27		-0.9	-2.0	49	30	42	24
Antigua and Barbuda		93	18	9		-0.5	-2.5	23	13	13	6
Aruba		69	19	15		-0.2	-1.1	22	17	15	13
Bahamas		71	16	9		-0.3	-2.1	18	10	13	8
Barbados		86	17	10		-0.4	-2.1	19	11	15	8
Cuba		81	10	5		-0.2	-2.2	11	6	8	5
Curaçao		66	15	10		-0.2	-1.5	16	12	13	9
Dominican Republic		153	48	25		-1.1	-2.4	53	29	42	21
Grenada		108	18	10		-0.4	-2.3	18	10	17	9
Guadeloupe ²⁵		81	14	6		-0.4	-2.9	15	7	12	5
Haiti		222	86	47		-1.9	-2.3	91	51	81	42
Jamaica		90	23	15		-0.4	-1.7	24	16	21	14
Martinique		81	14	6		-0.4	-2.7	15	7	12	6
Puerto Rico		63	12	6		-0.3	-2.3	13	7	10	6
Saint Lucia		148	17	11		-0.3	-1.9	21	12	14	9
Saint Vincent and the Grenadines		122	22	17		-0.3	-1.3	27	19	17	13
Trinidad and Tobago		83	28	25		-0.2	-0.6	31	27	25	23
United States Virgin Islands		58	15	9		-0.3	-1.9	16	8	15	11
Central America		127	36	19		-0.8	-2.3	39	22	33	17
Belize		100	30	14		-0.8	-2.6	31	16	28	13
Costa Rica		103	15	9		-0.3	-1.8	16	10	13	9
El Salvador		150	41	17		-1.2	-2.9	45	19	37	15
Guatemala		141	55	23		-1.6	-2.9	60	28	50	18
Honduras		169	43	28		-0.8	-1.8	48	32	38	23
Mexico		121	33	19		-0.7	-2.2	36	21	31	16
Nicaragua		172	48	20		-1.4	-2.9	54	22	42	18
Panama		86	26	15		-0.6	-2.1	30	18	22	12

Table A3

Infant mortality rate (deaths under age 1 per 1,000 live births)*

Country or area	Both sexes				Average annual change (1990-2015)		Male		Female					
	1950-55	1990-95	2010-15	1950-2015	Absolute	Per cent	1990-95	2010-15	1990-95	2010-15				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)			
South America²⁶		127		39		19			-1.0	-2.6	44	22	35	16
Argentina		64		24		14			-0.5	-2.2	27	16	22	12
Bolivia (Plurinational State of)		173		85		43			-2.1	-2.5	92	46	78	39
Brazil		137		43		20			-1.1	-2.6	47	24	38	17
Chile		130		20		7			-0.6	-3.2	25	9	14	6
Colombia		123		28		18			-0.5	-1.8	31	21	24	15
Ecuador		138		43		21			-1.1	-2.6	49	22	37	20
French Guiana		103		21		10			-0.6	-2.7	26	11	15	8
Guyana		72		45		33			-0.6	-1.3	50	38	40	29
Paraguay		73		43		29			-0.7	-1.6	48	33	37	24
Peru		159		55		19			-1.8	-3.3	62	22	49	16
Suriname		78		35		17			-0.9	-2.5	39	19	29	16
Uruguay		57		20		13			-0.4	-1.8	23	14	18	11
Venezuela (Bolivarian Republic of)		108		23		14			-0.5	-2.1	26	15	20	12
NORTHERN AMERICA²⁷		31		9		6			-0.1	-1.6	10	6	8	5
Canada		39		6		5			-0.1	-1.3	7	5	6	4
United States of America		30		9		6			-0.1	-1.6	10	7	8	5
OCEANIA		60		28		20			-0.4	-1.4	31	21	26	19
Australia/New Zealand		24		7		4			-0.1	-2.1	8	5	6	3
Australia ²⁸		24		7		4			-0.1	-2.1	8	4	6	3
New Zealand		27		8		4			-0.2	-2.1	8	5	7	4
Melanesia		143		62		44			-0.9	-1.5	66	44	57	43
Fiji		64		25		16			-0.5	-1.8	27	18	23	14
New Caledonia		117		24		13			-0.6	-2.3	30	15	18	11
Papua New Guinea		158		67		48			-1.0	-1.4	72	48	61	47
Solomon Islands		146		78		38			-2.0	-2.6	79	41	77	35
Vanuatu		170		52		24			-1.4	-2.7	56	27	47	20
Micronesia²⁹		103		42		28			-0.7	-1.7	46	32	37	23
Guam		83		21		10			-0.6	-2.7	24	11	17	9
Kiribati		143		64		47			-0.9	-1.4	75	57	52	35
Micronesia (Fed. States of)		97		42		33			-0.5	-1.1	42	33	43	32
Polynesia³⁰		98		27		16			-0.6	-2.1	29	16	25	15
French Polynesia		130		18		7			-0.6	-3.1	19	7	17	7
Samoa		107		36		20			-0.8	-2.3	39	20	33	19
Tonga		59		26		20			-0.3	-1.1	24	20	29	21

Legend:

Columns 2-4:

colored circles

< 25 = black
 25-49 = gray
 50-99 = light red
 100+ = red

cell color shading by mortality level

green = low
 red = high

Column 5:

colored dot on time trend

minimum value = blue dot
 maximum value = red dot

Columns 6-7:

cell color shading by pace of decline

light blue = slower pace of decline
 dark blue = fastest pace of decline

(*) Source: United Nations, Department of Economic and Social Affairs, Population Division (2015) *World Population Prospects: The 2015 Revision, DVD Edition*. Accessed on 12 Nov. 2015 at: <http://esa.un.org/unpd/wpp/DVD/>

File MORT/7-1: Life expectancy at birth (both sexes combined) by major area, region and country, 1950-2100 (years)

POP/DB/WPP/Rev.2015/MORT/F07-1 > Estimates, 1950 - 2015

[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F01_1_IMR_BOTH_SEXES.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F01_1_IMR_BOTH_SEXES.XLS)

Table A4

Probability of dying between age 15 and 60 (45q15), per 1,000 alive at age 15*

Country or area	Both sexes			Male		Female		Excess male mortality (ratio Male / Female)		
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
WORLD	384	153		419	182	348	122	1.20	1.49	
More developed regions ^a	201	112		247	152	161	72	1.53	2.11	
Less developed regions ^b	470	161		494	188	444	133	1.11	1.41	
Least developed countries ^c	488	240		513	263	462	217	1.11	1.21	
Other less developed countries ^d	467	151		492	178	441	121	1.11	1.47	
Less developed regions, excluding China	464	190		479	223	449	156	1.07	1.43	
High-income countries ^e	209	104		254	139	168	68	1.51	2.04	
Middle-income countries ^e	458	156		484	185	431	126	1.12	1.47	
Upper-middle-income countries ^e	440	115		479	139	399	91	1.20	1.53	
Lower-middle-income countries ^e	476	197		487	231	464	160	1.05	1.44	
Low-income countries ^e	530	271		568	295	493	247	1.15	1.19	
Sub-Saharan Africa^f	508	324		539	346	479	303	1.13	1.14	
AFRICA	473	285		505	308	442	263	1.14	1.17	
Eastern Africa	488	295		518	320	458	270	1.13	1.18	
Burundi	464	307		497	336	434	277	1.14	1.21	
Comoros	502	235		533	260	471	210	1.13	1.24	
Djibouti	442	259		471	281	414	235	1.14	1.20	
Eritrea	608	272		650	307	568	238	1.14	1.29	
Ethiopia	522	241		552	267	493	216	1.12	1.24	
Kenya	429	290		461	309	395	271	1.17	1.14	
Madagascar	495	232		515	257	474	208	1.09	1.24	
Malawi	443	303		466	316	422	291	1.11	1.09	
Mauritius ¹	397	149		446	198	348	97	1.28	2.05	
Mayotte	407	100		465	144	324	56	1.43	2.58	
Mozambique	556	404		585	433	527	380	1.11	1.14	
Réunion	393	99		465	144	324	56	1.43	2.58	
Rwanda	453	250		485	326	423	185	1.15	1.76	
Seychelles	296	173		336	243	257	94	1.31	2.59	
Somalia	524	321		555	350	492	291	1.13	1.20	
South Sudan	600	343		630	357	566	329	1.11	1.08	
Uganda	454	344		485	373	423	317	1.15	1.18	
United Republic of Tanzania ²	440	276		472	298	409	253	1.16	1.18	
Zambia	431	320		461	345	401	297	1.15	1.16	
Zimbabwe	364	463		392	477	336	450	1.17	1.06	
Middle Africa	490	316		524	337	459	295	1.14	1.14	
Angola	572	352		604	377	539	328	1.12	1.15	
Cameroon	470	366		499	379	442	353	1.13	1.07	
Central African Republic	530	428		562	446	499	412	1.13	1.08	
Chad	499	371		545	392	453	351	1.20	1.12	
Congo	419	279		442	299	397	260	1.11	1.15	
Democratic Republic of the Congo	463	272		495	297	436	248	1.14	1.20	
Equatorial Guinea	518	309		549	329	486	287	1.13	1.15	
Gabon	488	258		520	255	457	263	1.14	0.97	
Sao Tome and Principe	386	194		411	221	356	168	1.15	1.32	
Northern Africa	333	147		370	175	295	117	1.26	1.49	
Algeria	374	113		398	138	349	87	1.14	1.59	
Egypt	252	157		304	193	198	117	1.54	1.65	
Libya	455	140		475	176	433	101	1.10	1.75	
Morocco	346	100		381	108	310	91	1.23	1.20	
Sudan	404	230		432	259	376	202	1.15	1.28	
Tunisia	489	102		503	129	474	75	1.06	1.72	
Western Sahara	543	184		577	206	506	154	1.14	1.34	

Table A4

Probability of dying between age 15 and 60 (45q15), per 1,000 alive at age 15*

Country or area	Both sexes			Male		Female		Excess male mortality (ratio Male / Female)		
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015
	(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Southern Africa	534	434		563	462	507	412	1.11	1.12	
Botswana	396	303		435	346	363	260	1.20	1.33	
Lesotho	459	584		493	580	432	593	1.14	0.98	
Namibia	466	286		508	330	424	247	1.20	1.34	
South Africa	544	435		570	463	519	412	1.10	1.12	
Swaziland	470	568		510	557	432	584	1.18	0.95	
Western Africa ³	526	328		555	345	496	311	1.12	1.11	
Benin	511	251		508	275	515	228	0.99	1.21	
Burkina Faso	558	270		594	287	512	257	1.16	1.11	
Cabo Verde	393	120		421	143	368	102	1.14	1.40	
Côte d'Ivoire	489	415		514	430	463	396	1.11	1.09	
Gambia	572	270		604	297	540	243	1.12	1.22	
Ghana	430	254		448	274	411	236	1.09	1.16	
Guinea	537	282		566	294	505	270	1.12	1.09	
Guinea-Bissau	504	283		535	310	474	257	1.13	1.21	
Liberia	556	257		599	277	500	239	1.20	1.16	
Mali	607	269		637	268	573	272	1.11	0.98	
Mauritania	471	209		488	231	454	186	1.08	1.24	
Niger	511	231		529	246	498	211	1.06	1.17	
Nigeria	524	367		557	383	492	352	1.13	1.09	
Senegal	508	198		533	233	485	168	1.10	1.39	
Sierra Leone	558	410		567	413	551	407	1.03	1.01	
Togo	509	281		536	298	483	266	1.11	1.12	
ASIA	471	136		495	163	446	108	1.11	1.50	
Eastern Asia	453	87		494	103	408	71	1.21	1.44	
China ⁴	476	89		516	102	431	74	1.20	1.37	
China, Hong Kong SAR ⁵	226	49		293	66	172	34	1.70	1.96	
China, Macao SAR ⁶	249	60		279	80	230	41	1.22	1.93	
Dem. People's Republic of Korea	287	98		317	137	253	58	1.26	2.38	
Japan	630	147		744	183	509	111	1.46	1.64	
Mongolia	247	59		274	77	220	40	1.25	1.93	
Republic of Korea	351	220		379	304	325	135	1.17	2.26	
Other non-specified areas	405	69		439	97	370	39	1.19	2.47	
South-Central Asia ⁷	533	178		528	211	538	143	0.98	1.48	
Central Asia	296	196		388	263	205	131	1.89	2.01	
Kazakhstan	316	216		443	306	193	127	2.29	2.42	
Kyrgyzstan	339	183		433	254	251	113	1.73	2.24	
Tajikistan	225	165		253	209	198	120	1.28	1.74	
Turkmenistan	340	228		406	300	275	155	1.48	1.93	
Uzbekistan	273	186		352	239	195	135	1.81	1.77	
Southern Asia	540	178		533	209	550	143	0.97	1.46	
Afghanistan	630	268		653	289	600	245	1.09	1.18	
Bangladesh	327	136		326	157	328	113	1.00	1.38	
Bhutan	617	220		642	216	589	226	1.09	0.95	
India	571	188		564	223	580	151	0.97	1.48	
Iran (Islamic Republic of)	405	87		372	108	438	66	0.85	1.63	
Maldives	470	74		456	87	490	61	0.93	1.42	
Nepal	559	166		579	185	541	147	1.07	1.26	
Pakistan	431	164		420	181	443	146	0.95	1.24	
Sri Lanka	301	141		333	205	254	77	1.31	2.65	

Table A4

Probability of dying between age 15 and 60 (45q15), per 1,000 alive at age 15*

Country or area	Both sexes			Male		Female		Excess male mortality (ratio Male / Female)						
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015				
	(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(10)	(11)				
South-Eastern Asia		353		173		381	214	325	131		1.18		1.64	
Brunei Darussalam		280		74		305	90	252	56		1.21		1.63	
Cambodia		531		184		553	218	510	155		1.08		1.40	
Indonesia		315		182		323	210	307	152		1.05		1.38	
Lao People's Democratic Republic		475		206		513	227	437	186		1.17		1.22	
Malaysia ⁸		326		128		336	172	314	83		1.07		2.06	
Myanmar		535		204		588	233	479	177		1.23		1.32	
Philippines		306		215		330	276	283	148		1.17		1.86	
Singapore		300		58		346	74	249	41		1.39		1.81	
Thailand		338		160		366	211	311	108		1.18		1.95	
Timor-Leste		610		158		633	181	588	134		1.08		1.35	
Viet Nam		294		130		351	189	234	69		1.50		2.75	
Western Asia		367		126		408	155	326	93		1.25		1.67	
Armenia		226		121		276	173	179	72		1.54		2.41	
Azerbaijan ⁹		171		133		247	179	103	88		2.41		2.04	
Bahrain		393		72		440	77	331	61		1.33		1.26	
Cyprus ¹⁰		151		55		189	74	114	36		1.66		2.06	
Georgia ¹¹		267		118		358	174	185	66		1.94		2.65	
Iraq		464		168		482	200	447	136		1.08		1.47	
Israel		149		57		164	74	132	41		1.25		1.81	
Jordan		373		114		399	131	341	96		1.17		1.36	
Kuwait		251		83		271	99	219	60		1.24		1.66	
Lebanon		261		66		286	76	234	53		1.22		1.43	
Oman		433		103		456	116	407	73		1.12		1.60	
Qatar		268		71		309	78	221	49		1.40		1.60	
Saudi Arabia		396		90		431	96	357	82		1.21		1.17	
State of Palestine ¹²		412		124		445	146	371	102		1.20		1.44	
Syrian Arab Republic		357		196		342	290	371	89		0.92		3.26	
Turkey		381		111		432	147	331	76		1.30		1.94	
United Arab Emirates		367		79		411	84	319	59		1.29		1.42	
Yemen		490		227		518	249	460	206		1.13		1.21	
EUROPE		197		126		244	176	156	75		1.56		2.34	
Eastern Europe		225		197		294	285	172	108		1.71		2.63	
Belarus		214		214		271	319	170	108		1.59		2.95	
Bulgaria		191		140		216	193	167	86		1.29		2.26	
Czech Republic		187		89		232	120	146	56		1.59		2.13	
Hungary		195		153		229	210	164	96		1.40		2.20	
Poland		243		120		293	172	198	67		1.48		2.58	
Republic of Moldova ¹³		288		173		367	246	215	102		1.71		2.41	
Romania		207		140		235	199	181	80		1.30		2.48	
Russian Federation		239		235		343	341	172	128		2.00		2.68	
Slovakia		188		120		221	172	157	67		1.40		2.55	
Ukraine ¹⁴		204		206		270	299	157	114		1.72		2.62	
Northern Europe ¹⁵		168		78		204	99	134	57		1.52		1.75	
Channel Islands ¹⁶		164		55		198	66	133	44		1.49		1.48	
Denmark		139		75		157	92	122	57		1.28		1.62	
Estonia		214		130		303	193	152	68		2.00		2.82	
Finland ¹⁷		216		81		286	110	151	52		1.90		2.13	
Iceland		149		51		179	64	117	38		1.53		1.66	
Ireland		197		68		213	84	180	51		1.18		1.63	
Latvia		213		164		292	243	156	87		1.87		2.78	
Lithuania		211		178		275	264	156	92		1.76		2.86	

Table A4

Probability of dying between age 15 and 60 (45q15), per 1,000 alive at age 15*

Country or area	Both sexes			Male		Female		Excess male mortality (ratio Male / Female)						
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)			
Norway ¹⁸		125		63		149	77	101	47		1.47		1.62	
Sweden		135		56		154	67	116	44		1.33		1.54	
United Kingdom		167		73		204	90	133	57		1.54		1.60	
Southern Europe ¹⁹		191		67		227	90	158	45		1.43		2.00	
Albania		228		70		233	89	224	52		1.04		1.72	
Bosnia and Herzegovina		239		101		268	133	212	68		1.26		1.96	
Croatia		224		99		270	138	181	58		1.49		2.37	
Greece		200		76		237	105	165	46		1.44		2.29	
Italy		167		54		202	70	135	39		1.49		1.81	
Malta		177		58		203	73	151	42		1.35		1.74	
Montenegro		223		104		253	133	197	74		1.28		1.79	
Portugal		207		80		255	113	165	48		1.55		2.35	
Serbia ²⁰		240		118		256	155	224	81		1.14		1.92	
Slovenia		265		78		330	106	204	49		1.62		2.18	
Spain ²¹		195		61		233	82	160	39		1.46		2.09	
TFYR Macedonia ²²		291		106		298	137	284	73		1.05		1.89	
Western Europe ²³		174		74		212	95	140	52		1.51		1.85	
Austria		183		68		227	89	145	45		1.57		1.97	
Belgium		178		78		221	99	136	58		1.62		1.72	
France		195		81		244	110	149	53		1.64		2.08	
Germany		168		73		201	94	140	51		1.43		1.83	
Luxembourg		200		68		247	85	151	49		1.63		1.76	
Netherlands		126		60		144	67	108	53		1.33		1.28	
Switzerland		163		54		199	67	129	40		1.55		1.69	
LATIN AMERICA AND THE CARIBBEAN		332		138		358	180	305	95		1.17		1.91	
Caribbean ²⁴		315		153		337	185	291	120		1.16		1.53	
Antigua and Barbuda		288		133		305	158	274	111		1.11		1.42	
Aruba		261		96		284	120	240	75		1.18		1.61	
Bahamas		264		163		291	204	242	122		1.21		1.67	
Barbados		294		102		333	129	264	77		1.26		1.67	
Cuba		255		94		280	113	225	73		1.25		1.54	
Curaçao		278		102		300	142	255	68		1.18		2.09	
Dominican Republic		352		166		374	209	325	123		1.15		1.70	
Grenada		252		146		292	189	221	101		1.32		1.87	
Guadeloupe ²⁵		401		87		440	128	365	51		1.21		2.50	
Haiti		451		252		467	283	436	222		1.07		1.28	
Jamaica		252		136		272	168	233	103		1.17		1.64	
Martinique		388		71		407	101	371	46		1.10		2.21	
Puerto Rico		246		101		284	148	204	56		1.39		2.62	
Saint Lucia		286		141		330	171	245	112		1.35		1.53	
Saint Vincent and the Grenadines		355		159		379	184	337	132		1.12		1.40	
Trinidad and Tobago		305		173		323	219	286	126		1.13		1.74	
United States Virgin Islands		328		65		360	81	298	51		1.21		1.59	
Central America		362		126		394	162	330	90		1.20		1.80	
Belize		295		183		317	227	273	136		1.16		1.66	
Costa Rica		272		91		287	119	256	62		1.12		1.92	
El Salvador		439		185		495	272	379	108		1.31		2.52	
Guatemala		444		185		445	241	443	132		1.00		1.83	
Honduras		437		151		461	177	412	124		1.12		1.43	
Mexico		343		115		379	147	307	83		1.23		1.78	
Nicaragua		456		154		493	200	418	110		1.18		1.82	
Panama		295		120		305	156	284	82		1.07		1.90	

Table A4

Probability of dying between age 15 and 60 (45q15), per 1,000 alive at age 15*

Country or area	Both sexes			Male		Female		Excess male mortality (ratio Male / Female)						
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)				
South America ²⁶		325		140		350	187	299	94		1.17		2.00	
Argentina		247		117		287	158	200	77		1.44		2.05	
Bolivia (Plurinational State of)		417		193		441	224	395	162		1.12		1.38	
Brazil		351		149		369	200	334	97		1.10		2.07	
Chile		299		74		333	101	265	46		1.26		2.20	
Colombia		327		145		358	196	297	92		1.21		2.12	
Ecuador		349		130		364	169	335	90		1.09		1.88	
French Guiana		342		66		383	89	289	43		1.33		2.04	
Guyana		293		215		334	252	248	176		1.35		1.43	
Paraguay		198		148		226	168	173	128		1.31		1.31	
Peru		364		129		392	159	334	99		1.17		1.60	
Suriname		322		176		348	225	293	124		1.19		1.82	
Uruguay		204		109		251	140	151	78		1.66		1.78	
Venezuela (Bolivarian Republic of)		332		147		355	199	307	93		1.15		2.15	
NORTHERN AMERICA ²⁷		198		102		243	127	151	76		1.62		1.67	
Canada		171		66		204	80	135	51		1.51		1.57	
United States of America		200		106		247	132	152	79		1.63		1.68	

Table A4

Probability of dying between age 15 and 60 (45q15), per 1,000 alive at age 15*

Country or area	Both sexes			Male		Female		Excess male mortality (ratio Male / Female)		
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OCEANIA	 270	 103		305	123	234	83	 1.30	 1.49	
Australia/New Zealand	 174	 63		210	79	137	47	 1.53	 1.67	
Australia ²⁸	 176	 62		214	78	136	46	 1.57	 1.71	
New Zealand	 167	 66		194	81	140	53	 1.39	 1.54	
Melanesia	 640	 255		657	292	618	217	 1.06	 1.35	
Fiji	 317	 193		343	239	285	143	 1.20	 1.67	
New Caledonia	 368	 88		391	112	339	63	 1.16	 1.77	
Papua New Guinea	 691	 282		709	319	671	243	 1.06	 1.31	
Solomon Islands	 428	 183		443	203	398	162	 1.11	 1.25	
Vanuatu	 465	 137		495	161	432	113	 1.15	 1.43	
Micronesia ²⁹	 335	 121		355	142	309	99	 1.15	 1.44	
Guam	 303	 68		327	85	260	50	 1.26	 1.72	
Kiribati	 412	 203		452	244	373	163	 1.21	 1.50	
Micronesia (Fed. States of)	 325	 167		341	181	307	154	 1.11	 1.18	
Polynesia ³⁰	 455	 120		488	149	417	89	 1.17	 1.68	
French Polynesia	 477	 109		491	135	460	79	 1.07	 1.71	
Samoa	 530	 133		585	166	465	97	 1.26	 1.70	
Tonga	 337	 137		348	171	327	105	 1.06	 1.62	

Legend:

Columns 2 and 3:

colored circles

< 150 = black
 150-249 = gray
 250-349 = light red
 350+ = red

cell color shading by mortality level

green = low
 red = high

Columns 4 and 11:

colored dot on time trend

minimum value = blue dot
 maximum value = red dot

Columns 9 and 10:

colored circles

< 25 percentile = black
 25-49 percentile = gray
 50-75 percentile = light red
 75+ percentile = red

(*) Source: United Nations, Department of Economic and Social Affairs, Population Division (2015). *World Population Prospects: The 2015 Revision, DVD Edition*. Accessed on 12 Dec. 2015 at: <http://esa.un.org/unpd/wpp/DVD/>

File MORT/11-1: Probability of dying between the ages of 15 and 60 years (both sexes combined) by major area, region and country, 1950-2100
 POP/DB/WPP/Rev.2015/MORT/F11-1 > Estimates, 1950 - 2015
[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F11_1_Q1545_BOTH_SEXES.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F11_1_Q1545_BOTH_SEXES.XLS)

File MORT/11-2: Male probability of dying between the ages of 15 and 60 years by major area, region and country, 1950-2100
 POP/DB/WPP/Rev.2015/MORT/F11-2 > Estimates, 1950 - 2015
[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F11_2_Q1545_MALE.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F11_2_Q1545_MALE.XLS)

File MORT/11-3: Female probability of dying between the ages of 15 and 60 years by major area, region and country, 1950-2100
 POP/DB/WPP/Rev.2015/MORT/F11-3 > Estimates, 1950 - 2015
[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F11_3_Q1545_FEMALE.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F11_3_Q1545_FEMALE.XLS)

Table A5

Probability of surviving between birth and age 60 (60p0), per 1,000 live births*

Country or area	Both sexes			Male		Female		Deficit male survival (ratio Male / Female)		
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015
	(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
WORLD	460	797		430	767	490	827	0.88	0.93	
More developed regions ^a	729	881		683	841	773	922	0.88	0.91	
Less developed regions ^b	373	783		353	757	394	812	0.90	0.93	
Least developed countries ^c	318	680		297	655	340	705	0.87	0.93	
Other less developed countries ^d	381	804		362	776	402	833	0.90	0.93	
Less developed regions, excluding China	367	750		355	718	380	784	0.93	0.92	
High-income countries ^e	717	888		672	852	761	925	0.88	0.92	
Middle-income countries ^e	385	796		365	767	407	826	0.90	0.93	
Upper-middle-income countries ^e	418	859		385	834	455	885	0.85	0.94	
Lower-middle-income countries ^e	354	745		346	712	362	780	0.96	0.91	
Low-income countries ^e	291	647		263	621	320	672	0.82	0.92	
Sub-Saharan Africa^f	310	589		286	567	335	612	0.85	0.93	
AFRICA	335	632		311	608	359	655	0.87	0.93	
Eastern Africa	324	633		300	605	349	660	0.86	0.92	
Burundi	352	586		324	554	379	619	0.85	0.89	
Comoros	335	696		310	669	361	724	0.86	0.92	
Djibouti	379	663		355	638	404	690	0.88	0.92	
Eritrea	262	678		227	643	298	713	0.76	0.90	
Ethiopia	285	687		262	657	308	717	0.85	0.92	
Kenya	396	637		367	614	429	660	0.86	0.93	
Madagascar	314	712		297	685	333	740	0.89	0.93	
Malawi	340	628		325	613	353	642	0.92	0.95	
Mauritius ¹	487	838		448	788	526	890	0.85	0.89	
Mayotte	449	895		402	851	518	940	0.78	0.91	
Mozambique	249	522		228	491	270	550	0.84	0.89	
Réunion	460	896		402	851	518	940	0.78	0.91	
Rwanda	366	682		338	609	393	747	0.86	0.82	
Seychelles	613	815		574	743	651	896	0.88	0.83	
Somalia	283	567		259	538	310	596	0.84	0.90	
South Sudan	205	556		185	541	230	572	0.80	0.95	
Uganda	365	576		338	547	393	605	0.86	0.90	
United Republic of Tanzania ²	382	673		354	649	412	698	0.86	0.93	
Zambia	394	602		368	575	421	628	0.87	0.92	
Zimbabwe	485	481		458	463	512	497	0.89	0.93	
Middle Africa	320	576		293	554	347	599	0.84	0.92	
Angola	232	520		209	494	257	546	0.81	0.90	
Cameroon	345	542		321	526	369	558	0.87	0.94	
Central African Republic	276	461		252	438	302	485	0.83	0.90	
Chad	311	506		270	487	356	526	0.76	0.93	
Congo	409	651		391	628	427	674	0.92	0.93	
Democratic Republic of the Congo	353	623		326	599	377	648	0.86	0.92	
Equatorial Guinea	290	595		265	574	317	619	0.84	0.93	
Gabon	324	683		298	682	351	682	0.85	1.00	
Sao Tome and Principe	454	744		431	712	482	775	0.89	0.92	
Northern Africa	435	812		413	782	458	843	0.90	0.93	
Algeria	430	850		414	817	448	885	0.92	0.92	
Egypt	446	819		426	782	466	859	0.91	0.91	
Libya	337	832		318	793	359	875	0.89	0.91	
Morocco	469	870		437	859	503	882	0.87	0.97	
Sudan	429	692		404	665	455	720	0.89	0.92	
Tunisia	340	877		325	850	356	904	0.91	0.94	
Western Sahara	289	773		262	746	321	807	0.82	0.92	

Table A5

Probability of surviving between birth and age 60 (60p0), per 1,000 live births*

Country or area	Both sexes			Male		Female		Deficit male survival (ratio Male / Female)		
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015
	(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Southern Africa	369	522		342	492	394	548	0.87	0.90	
Botswana	464	664		427	620	498	710	0.86	0.87	
Lesotho	384	370		355	370	409	366	0.87	1.01	
Namibia	377	677		337	628	419	721	0.80	0.87	
South Africa	366	521		342	490	389	547	0.88	0.90	
Swaziland	372	382		336	388	409	371	0.82	1.05	
Western Africa ³	285	575		263	559	307	590	0.86	0.95	
Benin	291	653		290	627	294	680	0.99	0.92	
Burkina Faso	250	634		228	611	278	655	0.82	0.93	
Cabo Verde	469	856		445	832	492	876	0.90	0.95	
Côte d'Ivoire	280	488		264	473	298	506	0.89	0.92	
Gambia	238	653		215	625	262	681	0.82	0.93	
Ghana	402	672		390	652	414	692	0.94	0.94	
Guinea	276	628		254	616	300	640	0.85	0.96	
Guinea-Bissau	313	591		287	560	340	623	0.84	0.90	
Liberia	269	664		232	644	318	683	0.73	0.94	
Mali	200	625		183	626	219	622	0.84	1.01	
Mauritania	351	709		341	684	361	736	0.94	0.93	
Niger	303	677		294	661	309	696	0.95	0.95	
Nigeria	289	531		264	518	315	543	0.84	0.95	
Senegal	307	749		290	712	324	781	0.90	0.91	
Sierra Leone	231	487		213	481	251	494	0.85	0.97	
Togo	306	639		287	622	325	655	0.88	0.95	
ASIA	377	824		359	799	398	852	0.90	0.94	
Eastern Asia	415	898		380	882	454	915	0.84	0.96	
China ⁴	388	896		355	882	427	911	0.83	0.97	
China, Hong Kong SAR ⁵	698	948		635	931	753	964	0.84	0.97	
China, Macao SAR ⁶	672	934		641	913	694	954	0.92	0.96	
Dem. People's Republic of Korea	621	896		589	857	658	937	0.90	0.91	
Japan	274	823		182	787	381	860	0.48	0.92	
Mongolia	686	938		659	919	714	957	0.92	0.96	
Republic of Korea	438	751		408	667	469	838	0.87	0.80	
Other non-specified areas	456	927		423	898	490	957	0.86	0.94	
South-Central Asia ⁷	309	769		314	739	303	802	1.04	0.92	
Central Asia	575	765		492	697	658	833	0.75	0.84	
Kazakhstan	572	767		461	677	685	858	0.67	0.79	
Kyrgyzstan	537	795		452	724	621	866	0.73	0.84	
Tajikistan	586	785		553	739	620	833	0.89	0.89	
Turkmenistan	521	719		457	645	587	796	0.78	0.81	
Uzbekistan	595	764		524	708	668	819	0.78	0.86	
Southern Asia	301	769		309	741	293	801	1.05	0.93	
Afghanistan	201	648		186	627	220	671	0.85	0.93	
Bangladesh	431	823		427	800	436	847	0.98	0.94	
Bhutan	213	739		197	739	231	738	0.85	1.00	
India	285	762		294	732	275	796	1.07	0.92	
Iran (Islamic Republic of)	386	895		414	874	357	917	1.16	0.95	
Maldives	306	914		307	900	301	928	1.02	0.97	
Nepal	271	796		260	775	281	817	0.93	0.95	
Pakistan	345	756		347	738	342	776	1.01	0.95	
Sri Lanka	579	848		550	784	620	912	0.89	0.86	

Table A5

Probability of surviving between birth and age 60 (60p0), per 1,000 live births*

Country or area	Both sexes			Male		Female		Deficit male survival (ratio Male / Female)			
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015	
	(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
South-Eastern Asia		471	797		440	754	504	841		0.87	0.90
Brunei Darussalam		628	920		601	902	657	939		0.91	0.96
Cambodia		337	773		313	736	361	806		0.87	0.91
Indonesia		460	788		442	759	480	820		0.92	0.93
Lao People's Democratic Republic		366	739		332	717	402	760		0.83	0.94
Malaysia ⁸		569	863		555	818	585	908		0.95	0.90
Myanmar		297	741		251	708	351	773		0.72	0.92
Philippines		584	757		561	695	607	825		0.92	0.84
Singapore		634	939		589	922	684	956		0.86	0.96
Thailand		509	823		476	770	546	878		0.87	0.88
Timor-Leste		219	789		206	763	232	816		0.89	0.94
Viet Nam		564	845		515	784	617	909		0.83	0.86
Western Asia		436	841		397	810	478	876		0.83	0.92
Armenia		695	863		642	810	747	913		0.86	0.89
Azerbaijan ⁹		671	823		602	775	736	871		0.82	0.89
Bahrain		422	918		370	911	490	929		0.76	0.98
Cyprus ¹⁰		775	939		738	920	811	960		0.91	0.96
Georgia ¹¹		660	865		572	809	742	919		0.77	0.88
Iraq		343	796		326	761	360	830		0.91	0.92
Israel		805	938		787	920	825	954		0.95	0.96
Jordan		461	866		457	848	469	885		0.97	0.96
Kuwait		592	904		572	887	621	929		0.92	0.95
Lebanon		658	923		631	913	688	935		0.92	0.98
Oman		341	887		327	872	356	917		0.92	0.95
Qatar		597	919		555	912	647	942		0.86	0.97
Saudi Arabia		407	890		374	883	444	898		0.84	0.98
State of Palestine ¹²		446	851		413	827	488	876		0.85	0.94
Syrian Arab Republic		491	784		496	691	487	891		1.02	0.78
Turkey		404	865		354	827	458	903		0.77	0.92
United Arab Emirates		441	913		396	906	494	933		0.80	0.97
Yemen		303	708		282	684	327	730		0.86	0.94
EUROPE		721	867		672	816	764	918		0.88	0.89
Eastern Europe		671	794		604	706	725	883		0.83	0.80
Belarus		676	780		619	675	725	887		0.85	0.76
Bulgaria		704	848		677	795	732	904		0.92	0.88
Czech Republic		764	907		717	876	808	940		0.89	0.93
Hungary		732	842		694	784	769	899		0.90	0.87
Poland		681	874		630	821	729	928		0.86	0.88
Republic of Moldova ¹³		633	814		552	740	711	886		0.78	0.84
Romania		694	847		664	789	723	908		0.92	0.87
Russian Federation		641	755		547	649	707	863		0.77	0.75
Slovakia		737	873		701	821	772	927		0.91	0.89
Ukraine ¹⁴		696	783		631	690	745	876		0.85	0.79
Northern Europe ¹⁵		793	917		754	895	830	939		0.91	0.95
Channel Islands ¹⁶		798	935		758	925	836	945		0.91	0.98
Denmark		828	921		807	903	850	938		0.95	0.96
Estonia		689	864		602	802	754	927		0.80	0.87
Finland ¹⁷		746	915		674	886	813	945		0.83	0.94
Iceland		823	945		791	932	856	959		0.92	0.97
Ireland		758	928		739	912	779	945		0.95	0.97
Latvia		692	828		615	750	752	906		0.82	0.83
Lithuania		670	816		608	729	726	902		0.84	0.81

Table A5

Probability of surviving between birth and age 60 (60p0), per 1,000 live births*

Country or area	Both sexes			Male		Female		Deficit male survival (ratio Male / Female)		
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015
	(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Norway ¹⁸	844	934		817	919	872	949	0.94	0.97	
Sweden	840	941		818	929	862	953	0.95	0.97	
United Kingdom	801	921		762	904	838	938	0.91	0.96	
Southern Europe¹⁹	722	927		686	905	757	950	0.91	0.95	
Albania	609	913		599	894	619	933	0.97	0.96	
Bosnia and Herzegovina	602	889		578	857	625	923	0.92	0.93	
Croatia	692	895		650	855	731	937	0.89	0.91	
Greece	747	920		710	890	781	950	0.91	0.94	
Italy	764	943		728	927	798	958	0.91	0.97	
Malta	772	936		743	921	802	952	0.93	0.97	
Montenegro	670	889		639	859	697	919	0.92	0.93	
Portugal	671	916		625	882	714	948	0.88	0.93	
Serbia ²⁰	653	870		632	832	674	909	0.94	0.92	
Slovenia	710	918		648	890	767	948	0.84	0.94	
Spain ²¹	728	935		688	913	765	957	0.90	0.95	
TFYR Macedonia ²²	586	884		582	851	591	918	0.98	0.93	
Western Europe²³	778	922		736	900	817	944	0.90	0.95	
Austria	760	928		712	906	803	951	0.89	0.95	
Belgium	774	917		729	896	820	938	0.89	0.96	
France	757	915		706	886	807	943	0.87	0.94	
Germany	782	923		743	902	816	945	0.91	0.95	
Luxembourg	751	930		698	912	806	949	0.87	0.96	
Netherlands	844	935		822	928	865	943	0.95	0.98	
Switzerland	803	941		764	927	840	956	0.91	0.97	
LATIN AMERICA AND THE CARIBBEAN	526	836		498	791	555	882	0.90	0.90	
Caribbean²⁴	543	805		519	771	569	840	0.91	0.92	
Antigua and Barbuda	621	855		597	827	643	881	0.93	0.94	
Aruba	657	886		634	860	679	910	0.93	0.95	
Bahamas	653	824		624	782	676	865	0.92	0.90	
Barbados	607	886		564	858	643	912	0.88	0.94	
Cuba	650	898		620	878	686	919	0.90	0.96	
Curaçao	647	885		621	844	674	921	0.92	0.92	
Dominican Republic	467	807		446	762	492	853	0.91	0.89	
Grenada	626	840		589	797	656	886	0.90	0.90	
Guadeloupe ²⁵	507	905		471	863	541	942	0.87	0.92	
Haiti	345	672		328	639	364	706	0.90	0.91	
Jamaica	639	846		616	813	662	880	0.93	0.92	
Martinique	534	921		512	889	555	947	0.92	0.94	
Puerto Rico	689	892		649	844	732	937	0.89	0.90	
Saint Lucia	551	842		511	811	588	874	0.87	0.93	
Saint Vincent and the Grenadines	516	820		492	792	536	851	0.92	0.93	
Trinidad and Tobago	608	797		590	749	627	847	0.94	0.88	
United States Virgin Islands	612	924		583	910	639	937	0.91	0.97	
Central America	489	849		459	811	520	887	0.88	0.91	
Belize	591	797		567	751	616	847	0.92	0.89	
Costa Rica	604	897		586	868	625	926	0.94	0.94	
El Salvador	412	795		365	708	464	873	0.79	0.81	
Guatemala	385	784		381	725	389	841	0.98	0.86	
Honduras	387	808		365	779	410	839	0.89	0.93	
Mexico	513	861		480	827	548	896	0.88	0.92	
Nicaragua	387	823		357	775	418	868	0.85	0.89	
Panama	600	859		586	821	616	900	0.95	0.91	

Table A5

Probability of surviving between birth and age 60 (60p0), per 1,000 live births*

Country or area	Both sexes			Male		Female		Deficit male survival (ratio Male / Female)					
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
South America ²⁶		536	835		508	787		566	885		0.90	0.89	
Argentina		683	867		644	825		730	909		0.88	0.91	
Bolivia (Plurinational State of)		385	736		361	704		410	770		0.88	0.91	
Brazil		512	828		489	774		536	883		0.91	0.88	
Chile		561	912		525	883		598	942		0.88	0.94	
Colombia		528	830		496	777		560	885		0.89	0.88	
Ecuador		493	844		476	804		511	885		0.93	0.91	
French Guiana		545	922		496	898		607	946		0.82	0.95	
Guyana		624	746		579	704		673	790		0.86	0.89	
Paraguay		709	818		677	795		739	843		0.92	0.94	
Peru		445	841		421	808		469	875		0.90	0.92	
Suriname		580	801		552	751		611	854		0.90	0.88	
Uruguay		741	876		694	844		795	908		0.87	0.93	
Venezuela (Bolivarian Republic of)		558	837		535	783		583	893		0.92	0.88	
NORTHERN AMERICA ²⁷		768	891		720	865		818	917		0.88	0.94	
Canada		786	928		750	913		826	943		0.91	0.97	
United States of America		767	887		718	860		818	914		0.88	0.94	

Table A5

Probability of surviving between birth and age 60 (60p0), per 1,000 live births*

Country or area	Both sexes			Male		Female		Deficit male survival (ratio Male / Female)		
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OCEANIA	 651	 870		614	849	690	891	 0.89	 0.95	
Australia/New Zealand	 795	 931		757	915	835	948	 0.91	 0.97	
Australia ²⁸	 795	 932		755	916	837	949	 0.90	 0.97	
New Zealand	 800	 928		770	913	830	942	 0.93	 0.97	
Melanesia	 259	 696		240	660	281	734	 0.85	 0.90	
Fiji	 564	 787		530	740	606	838	 0.87	 0.88	
New Caledonia	 507	 896		485	870	535	923	 0.91	 0.94	
Papua New Guinea	 215	 667		197	631	235	705	 0.84	 0.90	
Solomon Islands	 428	 772		416	751	452	795	 0.92	 0.94	
Vanuatu	 379	 835		353	808	409	863	 0.86	 0.94	
Micronesia ²⁹	 551	 844		529	819	578	871	 0.92	 0.94	
Guam	 602	 920		574	902	649	939	 0.88	 0.96	
Kiribati	 444	 742		405	691	484	793	 0.84	 0.87	
Micronesia (Fed. States of)	 566	 794		554	781	580	807	 0.96	 0.97	
Polynesia ³⁰	 461	 862		427	832	500	894	 0.85	 0.93	
French Polynesia	 438	 883		423	856	456	913	 0.93	 0.94	
Samoa	 381	 844		326	811	449	880	 0.73	 0.92	
Tonga	 602	 839		597	807	605	871	 0.99	 0.93	

Legend:

Columns 2 and 3:

colored circles

< 400 = red
 400-599 = light red
 600-799 = light gray
 800+ = black

cell color shading by survival level

green = high
 red = low

Columns 4 and 11:

colored dot on time trend

minimum value = blue dot
 maximum value = red dot

Columns 9 and 10:

colored circles

< 25 percentile = black
 25-49 percentile = gray
 50-75 percentile = light red
 75+ percentile = red

(*) Source: United Nations, Department of Economic and Social Affairs, Population Division (2015). *World Population Prospects: The 2015 Revision, DVD Edition*. Accessed on 12 Dec. 2015 at: <http://esa.un.org/unpd/wpp/DVD/>

Note: Probability of surviving between birth and age 60 (60p0) is computed as the complement to the probability of dying between birth and the age of 60 years (60q0) per 1,000 live births. In this case, 60p0 = 1000 - 60q0.

File MORT/9-1: Probability of dying between birth and the age of 60 years (both sexes combined) by major area, region and country, 1950-2100
 POP/DB/WPP/Rev.2015/MORT/F09-1 > Estimates, 1950 - 2015
[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F09_1_Q0060_BOTH_SEXES.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F09_1_Q0060_BOTH_SEXES.XLS)

File MORT/9-2: Male probability of dying between birth and the age of 60 years by major area, region and country, 1950-2100
 POP/DB/WPP/Rev.2015/MORT/F09-2 > Estimates, 1950 - 2015
[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F09_2_Q0060_MALE.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F09_2_Q0060_MALE.XLS)

File MORT/9-3: Female probability of dying between birth and the age of 60 years by major area, region and country, 1950-2100
 POP/DB/WPP/Rev.2015/MORT/F09-3 > Estimates, 1950 - 2015
[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F09_3_Q0060_FEMALE.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F09_3_Q0060_FEMALE.XLS)

Table A6

Life expectancy at age 60 (years)*

Country or area	Both sexes			Male		Female		Absolute difference, years (female - male)		
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
WORLD		14.0	20.2	13.0	18.7	15.0	21.5		2.0	2.8
More developed regions ^a		16.8	22.8	15.5	20.8	18.0	24.6		2.5	3.8
Less developed regions ^b		12.2	18.9	11.5	17.8	12.9	20.0		1.5	2.2
Least developed countries ^c		12.0	17.3	11.6	16.7	12.4	17.8		0.8	1.2
Other less developed countries ^d		12.2	19.1	11.4	17.9	13.0	20.2		1.5	2.3
Less developed regions, excluding China		13.2	18.6	12.6	17.4	13.7	19.6		1.2	2.2
High-income countries ^e		16.8	23.2	15.4	21.2	18.0	25.0		2.6	3.9
Middle-income countries ^e		12.4	18.8	11.6	17.7	13.1	19.9		1.6	2.2
Upper-middle-income countries ^e		11.8	19.8	10.9	18.5	12.7	21.1		1.8	2.5
Lower-middle-income countries ^e		13.1	17.6	12.5	16.7	13.7	18.6		1.2	1.9
Low-income countries ^e		12.0	16.9	11.4	16.0	12.6	17.7		1.2	1.7
Sub-Saharan Africa ^f		12.0	16.1	11.5	15.4	12.5	16.8		1.0	1.4
AFRICA		12.5	16.7	12.0	15.9	13.0	17.4		1.0	1.5
Eastern Africa		12.8	17.7	12.2	16.9	13.2	18.3		1.0	1.4
Burundi		13.2	16.4	12.6	15.8	13.7	17.1		1.1	1.3
Comoros		12.6	16.2	12.0	15.3	13.2	17.0		1.2	1.7
Djibouti		13.6	17.5	13.1	16.9	14.1	18.1		1.0	1.2
Eritrea		10.7	15.4	9.5	13.7	11.9	16.9		2.4	3.3
Ethiopia		12.2	17.8	11.7	17.1	12.6	18.4		0.9	1.3
Kenya		13.9	17.8	13.3	17.1	14.4	18.4		1.2	1.4
Madagascar		12.7	16.9	12.4	16.2	12.9	17.5		0.5	1.3
Malawi		12.5	18.8	12.2	17.6	12.7	19.9		0.5	2.3
Mauritius ¹		12.6	20.2	11.1	18.0	14.1	22.1		2.9	4.1
Mayotte		13.9	23.3	12.0	21.4	16.4	25.4		4.4	4.0
Mozambique		11.6	17.0	11.2	16.2	12.0	17.6		0.9	1.4
Réunion		14.7	23.5	12.0	21.4	16.4	25.4		4.4	4.0
Rwanda		13.4	17.9	12.8	17.1	13.9	18.5		1.1	1.3
Seychelles		14.6	19.4	13.7	16.9	15.4	21.9		1.6	5.0
Somalia		12.2	16.1	11.7	15.5	12.6	16.6		1.0	1.1
South Sudan		10.8	16.4	10.4	15.9	11.3	16.9		0.9	1.0
Uganda		13.4	17.3	12.8	16.6	13.9	17.9		1.1	1.3
United Republic of Tanzania ²		13.7	18.5	13.1	17.8	14.2	19.1		1.1	1.3
Zambia		13.8	17.7	13.3	17.0	14.3	18.4		1.0	1.4
Zimbabwe		15.0	17.5	14.4	16.8	15.6	18.2		1.1	1.4
Middle Africa		12.8	16.4	12.2	15.8	13.3	17.0		1.1	1.1
Angola		11.4	15.7	10.8	15.1	11.8	16.3		1.0	1.2
Cameroon		13.1	16.4	12.6	15.8	13.6	17.0		1.0	1.2
Central African Republic		12.1	15.8	11.6	15.0	12.5	16.5		1.0	1.5
Chad		12.6	15.7	11.8	15.2	13.4	16.2		1.5	1.0
Congo		14.0	17.9	13.6	17.2	14.4	18.5		0.8	1.3
Democratic Republic of the Congo		13.2	16.6	12.7	16.0	13.7	17.1		1.0	1.1
Equatorial Guinea		12.3	16.8	11.8	16.3	12.7	17.5		1.0	1

Table A6

Life expectancy at age 60 (years)*

Country or area	Both sexes			Male		Female		Absolute difference, years (female - male)			
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Southern Africa		11.8	16.2		10.6	13.7	12.7	18.0	2.1	4.3	
Botswana		14.2	17.1		13.2	15.9	14.8	18.1	1.6	2.2	
Lesotho		13.3	15.5		12.5	14.5	13.8	16.2	1.3	1.7	
Namibia		13.1	17.3		12.3	15.9	13.9	18.4	1.6	2.5	
South Africa		11.5	16.1		10.4	13.5	12.6	18.1	2.2	4.6	
Swaziland		13.1	16.3		12.3	15.3	13.8	17.2	1.5	1.9	
Western Africa ³		11.2	14.4		10.9	14.1	11.5	14.7	0.6	0.7	
Benin		11.3	15.6		11.6	15.0	11.1	16.1	-0.5	1.2	
Burkina Faso		10.6	15.1		10.3	14.7	11.1	15.4	0.9	0.8	
Cabo Verde		14.2	18.6		13.4	17.3	14.7	19.7	1.3	2.4	
Côte d'Ivoire		12.8	14.1		12.4	13.8	13.2	14.4	0.8	0.6	
Gambia		10.4	15.2		10.1	14.7	10.7	15.9	0.5	1.2	
Ghana		12.7	15.5		12.4	15.0	12.9	16.0	0.4	1.0	
Guinea		10.9	15.0		10.7	14.7	11.2	15.3	0.5	0.6	
Guinea-Bissau		11.9	15.0		11.5	14.5	12.2	15.5	0.7	1.0	
Liberia		10.7	15.4		10.2	14.8	11.3	15.8	1.1	1.0	
Mali		9.9	15.2		9.6	15.1	10.1	15.3	0.5	0.2	
Mauritania		12.0	16.5		11.8	15.8	12.1	17.0	0.3	1.3	
Niger		11.3	16.0		11.2	15.5	11.4	16.5	0.1	1.0	
Nigeria		11.2	13.7		10.8	13.4	11.5	13.9	0.6	0.5	
Senegal		11.4	16.6		11.2	15.7	11.6	17.4	0.4	1.7	
Sierra Leone		10.6	13.0		10.7	13.0	10.5	13.1	-0.2	0.1	
Togo		11.4	15.1		11.1	14.7	11.6	15.4	0.5	0.8	
ASIA		12.1	19.4		11.3	18.1	12.9	20.6	1.6	2.5	
Eastern Asia		11.4	20.6		10.4	19.1	12.4	22.1	2.0	3.0	
China ⁴		10.8	19.4		9.8	18.3	11.7	20.6	1.8	2.3	
China, Hong Kong SAR ⁵		16.2	25.8		12.6	23.4	18.3	28.2	5.7	4.7	
China, Macao SAR ⁶		15.8	22.9		14.8	21.3	16.3	24.4	1.5	3.0	
Dem. People's Republic of Korea		15.4	23.3		14.5	21.7	16.0	24.9	1.5	3.3	
Japan		11.2	16.8		9.3	13.7	13.0	19.3	3.7	5.6	
Mongolia		15.7	25.8		14.4	23.0	16.9	28.4	2.5	5.4	
Republic of Korea		13.0	18.0		12.5	16.0	13.4	19.8	0.9	3.8	
Other non-specified areas		14.4	24.3		13.4	21.5	15.1	26.5	1.7	5.0	
South-Central Asia ⁷		12.5	17.9		12.0	17.2	12.9	18.6	0.9	1.4	
Central Asia		15.3	17.7		13.5	15.6	17.4	19.6	3.9	4.0	
Kazakhstan		14.8	17.1		12.6	14.4	17.4	19.2	4.9	4.8	
Kyrgyzstan		14.9	17.7		13.1	15.5	17.1	19.6	4.0	4.1	
Tajikistan		16.2	18.3		14.8	16.2	17.9	20.8	3.1	4.6	
Turkmenistan		14.5	17.0		13.0	15.0	16.3	18.8	3.3	3.8	
Uzbekistan		16.0	18.3		14.6	16.6	17.6	19.8	2.9	3.3	
Southern Asia		12.3	17.9		12.0	17.2	12.7	18.5	0.7	1.3	
Afghanistan		10.7	15.7		10.4	14.9	11.2	16.5	0.8	1.5	
Bangladesh		11.6	18.7		11.8	18.2	11.4	19.1	-0.3	0.9	
Bhutan		11.0	20.2		10.5	20.2	11.4	20.1	0.8	-0.1	
India		12.1	17.7		11.7	17.0	12.4	18.4	0.7	1.4	
Iran (Islamic Republic of)		12.8	19.4		12.5	19.1	13.1	19.7	0.6	0.6	
Maldives		11.6	19.5		11.7	19.0	11.6	20.1	-0.0	1.1	
Nepal		11.8	17.3		11.4	16.4	12.1	18.1	0.7	1.7	
Pakistan		15.0	17.8		14.1	17.5	16.3	18.0	2.2	0.4	
Sri Lanka		14.5	20.4		13.4	19.1	16.6	21.6	3.2	2.5	

Table A6

Life expectancy at age 60 (years)*

Country or area	Both sexes			Male		Female		Absolute difference, years (female - male)			
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
South-Eastern Asia											
Brunei Darussalam		14.0	18.4		13.2	16.8	14.8	19.9		1.6	3.1
Cambodia		15.3	21.4		14.5	20.1	16.1	22.7		1.6	2.6
Indonesia		12.2	17.1		11.0	16.3	13.3	17.7		2.3	1.4
Lao People's Democratic Republic		13.3	16.5		13.0	15.2	13.6	17.8		0.5	2.5
Malaysia ⁸		12.9	16.6		12.2	15.8	13.7	17.4		1.4	1.6
Myanmar		14.4	19.3		14.3	18.4	14.5	20.1		0.2	1.7
Philippines		12.2	16.7		11.3	15.7	13.1	17.5		1.8	1.9
Singapore		15.3	16.8		14.4	15.1	16.0	18.3		1.5	3.2
Thailand		14.5	25.1		12.2	22.5	16.5	27.5		4.3	5.0
Timor-Leste		16.9	21.4		15.2	20.0	18.5	22.6		3.3	2.6
Viet Nam		11.1	16.9		10.7	16.1	11.4	17.7		0.7	1.6
		15.1	22.3		13.3	19.3	16.9	24.8		3.6	5.5
Western Asia		14.3	19.8		13.5	18.0	14.9	21.5		1.5	3.5
Armenia		16.5	19.6		15.1	17.0	17.8	21.9		2.7	4.9
Azerbaijan ⁹		16.4	18.2		15.0	16.4	17.8	19.9		2.8	3.5
Bahrain		13.6	19.4		12.8	18.9	14.5	20.0		1.7	1.1
Cyprus ¹⁰		17.6	22.1		16.7	20.4	18.5	23.8		1.8	3.3
Georgia ¹¹		15.2	19.8		14.0	17.5	16.4	21.6		2.4	4.1
Iraq		13.1	17.5		12.6	16.2	13.5	18.6		0.9	2.4
Israel		17.2	24.6		16.5	23.2	17.9	25.7		1.4	2.5
Jordan		14.3	19.0		13.7	17.8	15.1	20.2		1.5	2.4
Kuwait		15.1	17.7		14.8	17.4	15.5	18.1		0.6	0.8
Lebanon		15.8	22.0		15.0	20.4	16.6	23.8		1.7	3.4
Oman		12.6	20.6		12.3	19.3	12.9	22.0		0.6	2.7
Qatar		15.8	21.0		14.8	20.5	16.8	21.9		2.0	1.4
Saudi Arabia		14.1	18.5		13.3	17.4	14.9	19.7		1.6	2.2
State of Palestine ¹²		13.8	18.5		13.1	17.2	14.7	19.7		1.6	2.5
Syrian Arab Republic		14.5	18.7		14.3	16.8	14.7	20.9		0.4	4.2
Turkey		13.3	20.8		12.5	18.6	13.9	22.7		1.4	4.1
United Arab Emirates		13.9	19.8		12.9	19.5	14.8	20.6		1.9	1.1
Yemen		12.8	16.2		12.2	15.4	13.4	17.1		1.2	1.7
EUROPE		16.8	21.9		15.5	19.8	17.8	23.8		2.4	4.0
Eastern Europe		16.5	19.0		14.9	16.2	17.6	21.2		2.7	5.0
Belarus		16.9	18.1		15.6	14.5	17.7	20.9		2.1	6.4
Bulgaria		17.4	19.2		16.8	17.0	18.0	21.2		1.2	4.2
Czech Republic		15.9	21.5		14.7	19.3	17.0	23.4		2.3	4.1
Hungary		16.0	20.1		15.1	17.5	16.8	22.1		1.6	4.5
Poland		15.5	21.5		14.2	18.7	16.6	23.9		2.4	5.1
Republic of Moldova ¹³		14.2	17.3		12.5	14.8	15.4	19.5		2.9	4.7
Romania		15.8	19.8		14.9	17.6	16.5	21.6		1.6	4.1
Russian Federation		16.9	18.3		14.6	15.2	18.2	20.7		3.6	5.5
Slovakia		16.7	20.3		16.0	17.7	17.2	22.4		1.2	4.7
Ukraine ¹⁴		17.0	18.1		15.7	15.2	17.7	20.2		2.0	5.0
Northern Europe¹⁵		17.0	23.3		15.4	21.7	18.3	24.8		2.9	3.1
Channel Islands ¹⁶		17.5	23.2		16.2	21.3	18.5	24.9		2.3	3.6
Denmark		17.8	22.8		17.3	21.3	18.2	24.2		0.9	3.0
Estonia		17.2	21.3		14.9	17.9	18.6	23.9		3.7	6.0
Finland ¹⁷		15.6	23.7		14.0	21.6	16.9	25.6		2.9	4.0
Iceland		19.5	24.5		18.4	23.4	20.4	25.5		2.0	2.1
Ireland		16.4	23.4		15.6	21.7	17.2	24.9		1.5	3.2
Latvia		17.8	19.8		15.8	16.4	19.1	22.2		3.2	5.8
Lithuania		18.5	19.2		17.0	15.4	19.6	22.3		2.6	6.9

Table A6

Life expectancy at age 60 (years)*

Country or area	Both sexes			Male		Female		Absolute difference, years (female - male)						
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)			
Norway ¹⁸		19.2		23.9		18.5	22.2	19.9	25.4		1.4		3.2	
Sweden		17.9		24.3		17.3	22.8	18.4	25.6		1.1		2.8	
United Kingdom		16.7		23.5		14.9	22.1	18.3	24.9		3.4		2.8	
Southern Europe ¹⁹		16.7		24.0		15.7	21.8	17.6	25.9		1.9		4.1	
Albania		17.5		21.2		17.0	19.2	17.9	23.3		0.8		4.1	
Bosnia and Herzegovina		13.9		20.2		13.5	18.5	14.2	21.8		0.7		3.3	
Croatia		14.4		20.6		13.2	18.2	15.4	22.7		2.2		4.6	
Greece		16.4		23.6		15.1	21.5	17.5	25.6		2.4		4.1	
Italy		17.2		25.1		16.4	23.0	17.9	27.0		1.6		4.0	
Malta		15.1		22.8		14.2	21.5	15.9	23.9		1.7		2.4	
Montenegro		15.5		19.8		14.7	18.4	16.1	21.1		1.4		2.7	
Portugal		16.9		23.7		15.4	21.5	18.1	25.6		2.7		4.1	
Serbia ²⁰		15.3		19.1		14.6	17.3	15.9	20.8		1.3		3.5	
Slovenia		15.4		23.1		14.0	20.6	16.7	25.2		2.7		4.6	
Spain ²¹		16.9		24.8		15.6	22.5	18.1	26.9		2.5		4.4	
TFYR Macedonia ²²		14.5		19.1		14.3	17.7	14.7	20.4		0.4		2.8	
Western Europe ²³		16.9		24.1		15.8	22.1	17.9	25.9		2.1		3.8	
Austria		16.5		23.8		15.2	21.8	17.6	25.6		2.4		3.7	
Belgium		16.8		23.7		15.6	21.7	17.9	25.4		2.3		3.8	
France		17.0		25.2		15.2	22.9	18.4	27.2		3.1		4.4	
Germany		16.8		23.5		16.0	21.6	17.5	25.2		1.5		3.6	
Luxembourg		15.9		23.9		14.8	21.9	17.0	25.6		2.2		3.6	
Netherlands		18.3		23.8		17.7	22.0	18.8	25.4		1.0		3.4	
Switzerland		17.0		25.0		15.8	23.2	18.1	26.6		2.3		3.4	
LATIN AMERICA AND THE CARIBBEAN		15.1		21.8		14.4	20.1	15.8	23.3		1.4		3.3	
Caribbean ²⁴		15.6		21.8		15.2	20.3	15.9	23.3		0.8		3.0	
Antigua and Barbuda		15.1		21.5		12.8	20.0	17.0	22.8		4.2		2.8	
Aruba		15.9		19.9		15.0	18.0	16.6	21.6		1.5		3.6	
Bahamas		15.8		22.3		14.9	20.4	16.5	23.8		1.6		3.4	
Barbados		15.6		19.5		14.4	17.8	16.2	21.1		1.8		3.4	
Cuba		16.0		23.1		15.7	21.7	16.4	24.5		0.7		2.8	
Curaçao		16.4		22.6		16.0	20.9	16.7	24.0		0.7		3.2	
Dominican Republic		14.3		21.7		13.8	20.4	15.0	23.1		1.1		2.8	
Grenada		14.8		18.8		13.5	17.5	15.6	19.9		2.1		2.4	
Guadeloupe ²⁵		14.5		24.5		13.0	22.2	15.6	26.6		2.6		4.4	
Haiti		13.8		17.8		13.7	16.9	13.9	18.7		0.3		1.8	
Jamaica		16.7		22.2		16.1	21.0	17.1	23.4		1.0		2.4	
Martinique		13.8		24.7		12.9	22.4	14.4	26.8		1.5		4.4	
Puerto Rico		17.6		23.6		17.2	21.1	18.1	25.9		0.9		4.8	
Saint Lucia		17.0		21.1		14.3	19.2	19.4	22.9		5.1		3.7	
Saint Vincent and the Grenadines		14.6		19.9		13.7	18.9	15.1	20.8		1.4		1.9	
Trinidad and Tobago		14.4		18.2		14.2	16.1	14.6	20.2		0.5		4.1	
United States Virgin Islands		14.2		23.2		12.7	20.4	15.5	25.9		2.8		5.5	
Central America		15.1		22.6		14.6	21.5	15.7	23.6		1.1		2.1	
Belize		15.4		17.0		14.9	15.8	15.8	18.4		1.0		2.6	
Costa Rica		15.4		23.6		14.9	22.2	15.9	25.0		1.0		2.8	
El Salvador		13.0		21.5		11.5	20.1	14.7	22.6		3.2		2.5	
Guatemala		14.3		21.3		14.1	20.3	14.5	22.3		0.4		2.1	
Honduras		13.6		22.1		13.3	20.7	13.9	23.4		0.6		2.7	
Mexico		15.6		22.7		15.1	21.6	16.1	23.7		1.0		2.0	
Nicaragua		13.2		22.3		12.5	21.0	13.9	23.4		1.4		2.4	
Panama		15.8		23.9		15.4	22.5	16.4	25.3		1.0		2.8	

Table A6

Life expectancy at age 60 (years)*

Country or area	Both sexes			Male		Female		Absolute difference, years (female - male)						
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015				
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)				
South America ²⁶		15.1		21.5		14.2	19.6	15.9	23.2		1.6		3.7	
Argentina		16.3		21.4		15.0	18.6	17.9	23.8		2.9		5.3	
Bolivia (Plurinational State of)		12.7		21.1		12.4	20.0	12.9	22.2		0.5		2.1	
Brazil		14.9		21.3		14.1	19.4	15.6	23.0		1.5		3.5	
Chile		16.2		25.2		14.9	23.1	17.5	26.9		2.6		3.8	
Colombia		14.7		21.4		14.1	20.1	15.2	22.5		1.1		2.4	
Ecuador		14.7		22.9		14.0	21.7	15.3	23.9		1.3		2.2	
French Guiana		14.8		22.2		13.8	19.5	15.8	25.0		2.0		5.5	
Guyana		16.0		16.0		14.9	15.4	17.0	16.6		2.0		1.2	
Paraguay		16.8		21.0		15.8	20.0	17.7	22.2		1.9		2.2	
Peru		13.8		21.2		13.3	19.8	14.2	22.7		0.9		2.9	
Suriname		15.1		18.5		14.5	16.7	15.7	20.1		1.1		3.4	
Uruguay		16.9		22.0		15.3	19.0	18.8	24.5		3.6		5.5	
Venezuela (Bolivarian Republic of)		15.3		20.6		14.8	18.6	15.9	22.6		1.0		4.1	
NORTHERN AMERICA ²⁷		17.4		23.5		15.9	21.9	19.0	24.9		3.1		3.0	
Canada		17.8		24.7		16.7	23.1	19.0	26.2		2.4		3.1	
United States of America		17.4		23.3		15.9	21.8	19.0	24.7		3.1		3.0	

Table A6

Life expectancy at age 60 (years)*

Country or area	Both sexes			Male		Female		Absolute difference, years (female - male)				
	1950-55	2010-15	1950-2015	1950-55	2010-15	1950-55	2010-15	1950-55	2010-15	1950-2015		
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
OCEANIA		16.3		23.7					3.2		3.1	
Australia/New Zealand		17.2		24.8					3.2		3.1	
Australia ²⁸		17.1		24.9					3.3		3.2	
New Zealand		17.5		24.5					2.6		2.6	
Melanesia		10.5		15.7					1.7		3.1	
Fiji		12.4		17.0					0.8		3.5	
New Caledonia		14.4		20.3					1.4		4.3	
Papua New Guinea		10.0		14.9					1.9		3.3	
Solomon Islands		13.4		16.9					1.2		1.7	
Vanuatu		13.1		18.0					1.3		2.3	
Micronesia ²⁹		14.7		19.7					1.5		3.1	
Guam		15.4		22.0					1.8		4.4	
Kiribati		13.9		16.8					1.6		2.3	
Micronesia (Fed. States of)		14.9		17.3					1.3		1.5	
Polynesia ³⁰		12.7		19.5					2.1		3.8	
French Polynesia		12.7		20.2					0.3		2.8	
Samoa		11.5		18.9					3.0		5.0	
Tonga		14.0		18.6					2.2		4.7	

Legend:

Columns 2 and 3:

colored circles

< 15 = black
 15-17 = gray
 18-20 = light red
 21+ = red

Columns 4 and 11:

colored dot on time trend

minimum value = blue dot
 maximum value = red dot

Columns 9 and 10:

colored circles

< 25 percentile = black
 25-49 percentile = gray
 50-75 percentile = light red
 75+ percentile = red

(*) Source: United Nations, Department of Economic and Social Affairs, Population Division (2015). *World Population Prospects: The 2015 Revision, DVD Edition*. Accessed on 12 Nov. 2015 at: <http://esa.un.org/unpd/wpp/DVD/>

File MORT/13-1: Life expectancy at age 60 (both sexes combined) by major area, region and country, 1950-2100 (years)

POP/DB/WPP/Rev.2015/MORT/F13-1 > Estimates, 1950 - 2015

[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F13_1_LIFE_EXPECTANCY_60_BOTH_SEXES.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F13_1_LIFE_EXPECTANCY_60_BOTH_SEXES.XLS)

File MORT/13-2: Male life expectancy at age 60 by major area, region and country, 1950-2100 (years)

POP/DB/WPP/Rev.2015/MORT/F13-2 > Estimates, 1950 - 2015

[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F13_2_LIFE_EXPECTANCY_60_MALE.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F13_2_LIFE_EXPECTANCY_60_MALE.XLS)

File MORT/13-3: Female life expectancy at age 60 by major area, region and country, 1950-2100 (years)

POP/DB/WPP/Rev.2015/MORT/F13-3 > Estimates, 1950 - 2015

[http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20\(Standard\)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F13_3_LIFE_EXPECTANCY_60_FEMALE.XLS](http://esa.un.org/unpd/wpp/DVD/Files/1_Indicators%20(Standard)/EXCEL_FILES/3_Mortality/WPP2015_MORT_F13_3_LIFE_EXPECTANCY_60_FEMALE.XLS)

Notes

(*) * Countries or areas listed individually are only those with 90,000 inhabitants or more in 2015; the rest are included in the aggregates but are not listed separately.

(a) More developed regions comprise Europe, Northern America, Australia/New Zealand and Japan.

(b) Less developed regions comprise all regions of Africa, Asia (except Japan), Latin America and the Caribbean plus Melanesia, Micronesia and Polynesia.

(c) The group of least developed countries, as defined by the United Nations General Assembly in its resolutions (59/209, 59/210, 60/33, 62/97, 64/L.55, 67/L.43, 64/295) included 48 countries in January 2014: 34 in Africa, 9 in Asia, 4 in Oceania and one in Latin America and the Caribbean.

(d) Other less developed countries comprise the less developed regions excluding the least developed countries.

(e) The country classification by income level is based on 2014 GNI per capita from the World Bank.

(f) Sub-Saharan Africa refers to all of Africa except Northern Africa.

(1) Including Agalega, Rodrigues and Saint Brandon.

(2) Including Zanzibar.

(3) Including Saint Helena, Ascension, and Tristan da Cunha.

(4) For statistical purposes, the data for China do not include Hong Kong and Macao, Special Administrative Regions (SAR) of China, and Taiwan Province of China.

(5) As of 1 July 1997, Hong Kong became a Special Administrative Region (SAR) of China.

(6) As of 20 December 1999, Macao became a Special Administrative Region (SAR) of China.

(7) The regions Southern Asia and Central Asia are combined into South-Central Asia.

(8) Including Sabah and Sarawak.

(9) Including Nagorno-Karabakh.

(10) Refers to the whole country

(11) Including Abkhazia and South Ossetia.

(12) Including East Jerusalem.

(13) Including Transnistria.

(14) Including Crimea

(15) Including Faeroe Islands, and Isle of Man.

(16) Refers to Guernsey, and Jersey.

(17) Including Åland Islands.

(18) Including Svalbard and Jan Mayen Islands.

(19) Including Andorra, Gibraltar, Holy See, and San Marino.

(20) Including Kosovo.

(21) Including Canary Islands, Ceuta and Melilla.

(22) The former Yugoslav Republic of Macedonia.

(23) Including Liechtenstein, and Monaco.

(24) Including Anguilla, British Virgin Islands, Caribbean Netherlands, Cayman Islands, Dominica, Montserrat, Saint Kitts and Nevis, Sint Maarten (Dutch part) and Turks and Caicos Islands.

(25) Including Saint-Barthélemy and Saint-Martin (French part).

(26) Including Falkland Islands (Malvinas).

(27) Including Bermuda, Greenland, and Saint Pierre and Miquelon.

(28) Including Christmas Island, Cocos (Keeling) Islands and Norfolk Island.

(29) Including Marshall Islands, Nauru, Northern Mariana Islands, and Palau.

(30) Including American Samoa, Cook Islands, Niue, Pitcairn, Tokelau, Tuvalu, and Wallis and Futuna Islands.

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