



**United Nations**

Department of  
Economic and  
Social Affairs

# World Mortality 2019





Department of Economic and Social Affairs

Population Division

# World Mortality 2019



United Nations

New York, 2020

The Department of Economic and Social Affairs of the United Nations Secretariat is a vital interface between global policies in the economic, social and environmental spheres and national action. The Department works in three main interlinked areas: (i) it compiles, generates and analyses a wide range of economic, social and environmental data and information on which States Members of the United Nations draw to review common problems and take stock of policy options; (ii) it facilitates the negotiations of Member States in many intergovernmental bodies on joint courses of action to address ongoing or emerging global challenges; and (iii) it advises interested Governments on the ways and means of translating policy frameworks developed in United Nations conferences and summits into programmes at the country level and, through technical assistance, helps build national capacities.

The Population Division of the Department of Economic and Social Affairs provides the international community with timely and accessible population data and analysis of population trends and development outcomes for all countries and areas of the world. To this end, the Division undertakes regular studies of population size and characteristics and of all three components of population change (fertility, mortality and migration). Founded in 1946, the Population Division provides substantive support on population and development issues to the United Nations General Assembly, the Economic and Social Council and the Commission on Population and Development. It also leads or participates in various interagency coordination mechanisms of the United Nations system. The work of the Division also contributes to strengthening the capacity of Member States to monitor population trends and to address current and emerging population issues.

## Notes

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

The term “country” as used in this report also refers, as appropriate, to territories or areas.

This report is available in electronic format on the Division’s website at [www.unpopulation.org](http://www.unpopulation.org). For further information about this report, please contact the Population Division, Department of Economic and Social Affairs, United Nations, Two United Nations Plaza, DC2-1950, New York, 10017, USA; phone: +1 212-963-3209; email: [population@un.org](mailto:population@un.org).

Suggested citation:

United Nations, Department of Economic and Social Affairs, Population Division (2020). *World Mortality 2019* (ST/ESA/SER.A/437).

Official symbols of United Nations documents are composed of capital letters combined with numbers, as illustrated in the above citation.

Front cover photo credit: UN Day Celebration at Kapuri School, South Sudan. 2014. UN Photo/JC McIlwaine.

Published by the United Nations

Sales No.: E.20.XIII.11

ISBN: 978-92-1-148332-1

eISBN: 978-92-1-004767-8

Copyright © 2020 by United Nations, made available under a Creative Commons license (CC BY 3.0 IGO) <http://creativecommons.org/licenses/by/3.0/igo/>

## PREFACE

*World Mortality 2019* assesses changes in mortality risks at the global, and regional levels, focusing in particular on the period from 1994 to 2015, the first two decades of implementation for the Programme of Action of the International Conference on Population and Development (ICPD). The report reviews the progress made towards achieving the survival targets outlined in the Programme of Action and discusses how these targets were subsequently reflected in the Millennium Development Goals (MDGs) and its successor, the Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development. It evaluates the progress made by regions and countries in raising levels of life expectancy at birth, focusing in particular on reductions in mortality among children under age 5, women in the reproductive age range, all adults in the working age range and older adults at ages 60 and above. The report also discusses the contributions of the improvements in survival at different stages of life towards the achievement of the ICPD survival targets.

The data presented are from *World Population Prospects 2019*, the latest round of population estimates and projections prepared by the Population Division, complemented by data from other sources, including other United Nations entities and national statistical offices.

The report was prepared by the Demographic Analysis Section of the Population Division. It benefited from substantive review by Lina Bassarsky, Victor Gaigbe-Togbe, Bela Hovy, Gavin Jones and Frank Swiaczny. The Publications, Outreach and Support Unit of the Population Division provided editorial support.

*World Mortality 2019* as well as other information about the global population may be accessed on the Population Division's website at [www.unpopulation.org](http://www.unpopulation.org). For further information concerning this publication, please contact the Office of the Director, Population Division, United Nations Department of Economic and Social Affairs, New York, New York 10017, USA, telephone +1 (212) 963-3209, fax +1 (212) 963-2147, email [population@un.org](mailto:population@un.org).

This page is intentionally left blank.

## CONTENTS

PREFACE.....	iii
EXPLANATORY NOTES .....	vii
KEY MESSAGES .....	1
I. HEALTH AND SURVIVAL IN THE CAIRO AGREEMENT AND THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT.....	3
A. Introduction.....	3
B. The Cairo agreement and its objectives on health, morbidity and mortality .....	3
C. Linkages between the Cairo agreement and the 2030 Agenda .....	6
II. GLOBAL AND REGIONAL LEVELS AND TRENDS IN MORTALITY .....	13
A. Introduction.....	13
B. Life expectancy at birth.....	13
C. Mortality among children.....	20
D. Adult mortality in the working ages and among older persons.....	25
E. Summary .....	29
III. CONCLUSIONS AND POLICY IMPLICATIONS.....	31
A. Reducing maternal and child mortality.....	31
B. Addressing premature mortality and morbidity from non-communicable diseases.....	32
C. Continuing focus on the HIV/AIDS epidemic.....	32
D. Improving the evidence base for policy formulation .....	33
REFERENCES .....	35

## TABLES

Table I.1. Targets for life expectancy at birth.....	7
Table I.2. Targets for infant and child mortality.....	9
Table I.3. Targets for maternal mortality .....	10
Table I.4. Targets for HIV/AIDS, tuberculosis, malaria and neglected tropical diseases.....	11
Table I.5. Targets for non-communicable diseases.....	12
Table II.1. Life expectancy at birth, world and by region, 1950, 1994 and 2019 .....	16
Table II.2. Under-five mortality rate, world and by region, 1950, 1994 and 2015.....	23
Table II.3. Probability of dying between ages 15 and 60, world and by region, 2019 .....	27
Table II.4. Life expectancy at age 60, world and by region, 1950, 1994 and 2019.....	29

## FIGURES

Figure II.1. Life expectancy at birth, world and by region, 1950-2019.....	15
Figure II.2. Life expectancy at birth in 1994 and ICPD targets for 2015, world and by region.....	17
Figure II.3. Distribution of the world's population by level of life expectancy at birth in a person's country of residence, from 1950-1955 to 2015-2020.....	18
Figure II.4. Sex differences in life expectancy at birth, world and by region, 1950-2020.....	20
Figure II.5. Under-five mortality rate, world and by region, 1950-2020.....	21
Figure II.6. Under-five mortality rate, world and by region, 1994 and 2015, with comparison to the ICPD target .....	22
Figure II.7. Under-five mortality rate, world and by region, 1990 and 2015, with comparison to the MDG target.....	23
Figure II.8. Infant mortality rate, world and by region, 1950-2019.....	24
Figure II.9. Infant mortality rate, world and by region, 1994 and 2015, with comparison to the ICPD target .....	25
Figure II.10. Probability of dying between ages 15 and 60, world and by region, 1950-2020.....	26
Figure II.11. Life expectancy at age 60, world and by region, 1950-2020 .....	28



## EXPLANATORY NOTES

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

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

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

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.

An em dash (—) indicates that the magnitude is not zero, but less than half of the unit employed (i.e. is rounded to 0, when in fact it is not 0)

A 0 or 0.0 indicates that the magnitude is zero

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

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

### References to regions, subregions, development groups, countries or areas:

The designations employed in this publication and the material presented in it 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, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The term “country” as used in this publication also refers, as appropriate, to territories or areas.

In this report, data for countries and areas are often aggregated in six continental regions: Africa, Asia, Europe, Latin America and the Caribbean, Northern America, and Oceania. Further information on continental regions is available from <https://unstats.un.org/unsd/methodology/m49/>. Countries and areas have also been grouped into geographic regions based on the classification being used to track progress towards the Sustainable Development Goals of the United Nations (see: <https://unstats.un.org/sdgs/indicators/regional-groups/>).

The designation of “more developed” and “less developed”, or “developed” and “developing”, is intended for statistical purposes and does not express a judgment about the stage in the development process reached by a particular country or area. More developed regions comprise all countries and areas of Europe and Northern America, plus Australia, New Zealand and Japan. Less developed regions comprise all countries and areas of Africa, Asia (excluding Japan), Latin America and the Caribbean, and Oceania (excluding Australia and New Zealand).

The group of least developed countries (LDCs) includes 47 countries, located in sub-Saharan Africa (32), Northern Africa and Western Asia (2), Central and Southern Asia (4), Eastern and South-Eastern Asia (4), Latin America and the Caribbean (1), and Oceania (4). Further information is available at <http://unohrrls.org/about-ldcs/>.

The group of Landlocked Developing Countries (LLDCs) includes 32 countries or territories, located in sub-Saharan Africa (16), Northern Africa and Western Asia (2), Central and Southern Asia (8), Eastern and South-Eastern Asia (2), Latin America and the Caribbean (2), and Europe and Northern America (2). Further information is available at <http://unohrrls.org/about-lldc/>.

The group of Small Island Developing States (SIDS) includes 58 countries or territories, located in the Caribbean (29), the Pacific (20), and the Atlantic, Indian Ocean, Mediterranean and South China Sea (AIMS) (9). Further information is available at <http://unohrlls.org/about-sids/>.

The classification of countries and areas by income level is based on gross national income (GNI) per capita as reported by the World Bank (June 2018). These income groups are not available for all countries and areas.

\* For country notes, please refer to <https://population.un.org/wpp/Download/Metadata/Documentation>

### **List of Abbreviations**

AIDS	Acquired immunodeficiency syndrome
ECA	Economic Commission for Africa
FAO	Food and Agriculture Organization
HIV	Human immunodeficiency virus
ICPD	International Conference on Population and Development
IMR	Infant mortality rate
MDG	Millennium Development Goals
MMR	Maternal mortality ratio
NCD	Non-communicable disease
NGO	Non-governmental organization
SAR	Special Administrative Region
U5MR	Under-five mortality rate
UNAIDS	Joint United Nations Programme on HIV/AIDS
UN DESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
SDG	Sustainable Development Goals
WHO	World Health Organization

## KEY MESSAGES

### **Although global life expectancy at birth continues to increase, the goal of 75 or 70 years by 2015 has not been achieved by all countries**

The International Conference on Population and Development, held in Cairo in 1994, established goals for the level of life expectancy at birth to be achieved by 2015. The goal was set at 75 years for most countries and 70 years for high-mortality countries (as assessed at the time). Since 1994, global life expectancy at birth has increased by 7.7 years; in 2019, a newborn was expected to live, on average, almost 73 years if mortality risks would remain constant at levels observed in that year. Among 57 countries with relatively high levels of mortality in 1994, only 6 reached or almost reached the goal of 70 years by 2015. Of 107 countries with relatively low levels of mortality in 1994, fewer than half (51) achieved the goal of 75 years by 2015.

### **Although reductions in mortality rates have narrowed the global gap in life expectancy at birth, large differences remain**

In recent decades, sub-Saharan Africa has experienced the largest gain in years of life expectancy at birth, rising from 49.1 in 1994 to 61.1 in 2019 and partially closing the gap with other regions of the world. Despite this gain, the difference in life expectancy between regions with the lowest (Australia and New Zealand) and the highest mortality (sub-Saharan Africa) stood at 22.2 years in 2019.

### **At the global level, women continue to live longer than men**

In 2019 globally, life expectancy for women exceeded that for men by 4.8 years. In that year, the female advantage in life expectancy ranged from 6.5 years in Latin America and the Caribbean to 2.8 years in Central and Southern Asia. Since 1994, the sex gap in life expectancy at birth shrank in some regions (Australia and

New Zealand, Europe and Northern America, and Northern Africa and Western Asia), but increased in others (Central and Southern Asia, and Eastern and South-Eastern Asia).

### **Progress in reducing child mortality has been remarkable**

The 1994 conference also set a goal of reducing the level of under-five mortality to less than 45 deaths per 1,000 live births. The world as a whole succeeded in achieving this goal, reducing the under-five mortality rate by half, from 88 per 1,000 in 1994 to 43 per 1,000 in 2015. In 1994, 93 countries had under-five mortality rates higher than the goal of 45 per 1,000. Although the under-five mortality rate declined in all countries without exception, the goal established in 1994 was achieved by 2015 in only 40 of the 93 countries (43%).

### **Accelerated action will be needed, especially in sub-Saharan Africa, to reduce child mortality to meet the target for 2030**

The Sustainable Development Goals (SDGs) call for achieving, by 2030, a maximum of 25 deaths below age 5 per 1,000 live births (target 3.2). Among regions where under-five mortality is still above this target, only one, Northern Africa and Western Asia, is expected to reach the target by 2030. Central and Southern Asia, and Oceania excluding Australia and New Zealand are expected to reach the target by 2040, a decade after the end date of the SDGs. Accelerated action is required especially in sub-Saharan Africa, where child mortality is currently projected to reach 56.6 deaths per 1,000 live births in 2030, more than double the SDG target.

**Child mortality has become increasingly concentrated in the first months, weeks and days of life**

Reducing mortality among infants, especially during the first four weeks of life, has proven more difficult than reducing mortality for all children under five years of age. As a result, child mortality has become increasingly concentrated in the first months, weeks and days of life. For example, the share of deaths below age 5 that occur in the first 28 days of life rose from 40 per cent in 1990 to 47 per cent in 2018.

**Despite substantial reductions in maternal mortality throughout the world, differentials across regions remain large**

Worldwide, the maternal mortality ratio fell from 342 maternal deaths per 100,000 live births in 2000 to 211 per 100,000 in 2017. In 2017, two thirds of all maternal deaths occurred in sub-Saharan Africa, where the maternal mortality ratio was 542 per 100,000. Although this region has achieved significant progress in lowering maternal mortality since 2000, maternal mortality is still almost 78 times higher than in Australia and New Zealand, the region with the lowest risk of maternal death. Major efforts will be needed to bring the maternal mortality ratio below the level of 70 per 100,000 by 2030, as prescribed by target 3.1 of the Sustainable Development Goals.

**Mortality is also falling at adult ages, where non-communicable diseases are now the main cause of death in most countries**

Globally, the probability of dying between ages 15 and 60 has fallen by almost 30 per cent since 1994, while the remaining life expectancy at age 60 has risen by 2.7 years. The main causes of death at adult ages throughout most of the world are non-communicable diseases. Efforts to reduce the number of such deaths must focus on reducing the prevalence of behavioural risk factors, including alcohol and tobacco use, an unhealthy diet and lack of physical activity. Target 3.4 of the Sustainable Development Goals aims, by 2030, to reduce by one third premature mortality from non-communicable diseases through prevention and treatment.

**Improving the evidence base for policy formulation**

National statistical systems in many countries require strengthening to ensure regular and timely production and dissemination of accurate and disaggregated mortality data by cause of death, for use by Governments and other stakeholders in formulating and implementing health policies, tracking implementation and measuring impact at the national level, and monitoring progress toward the achievement of global development goals at the national, regional and international levels. Special attention should be given to civil registration and vital statistics systems, and to the collection of information on deaths by age, sex and cause.

## **I. HEALTH AND SURVIVAL IN THE CAIRO AGREEMENT AND THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT**

### **A. INTRODUCTION**

The Programme of Action adopted at the International Conference on Population and Development, held in Cairo in 1994, is widely recognized as a ground-breaking agreement on population and development issues rooted in principles of human rights. Among the many goals agreed in the Programme of Action, to be achieved over a 20-year period, were targets for reducing mortality, lengthening life expectancy and improving the health of populations, including by reducing disparities between and within countries and regions. In December 2010, the General Assembly extended the Programme of Action beyond 2014, noting that its goals and objectives were still valid.<sup>1</sup>

Today, the Programme of Action remains an important document in the history of global priority setting on health and mortality. Building upon the ideals of improved health at all ages and universal access to primary health care, first articulated in 1978 in the Declaration of Alma-Ata, the Cairo agreement in 1994 provided a solid foundation on which to build a global consensus around quantitative objectives for health and mortality, as reflected just six years later in the Millennium Development Goals.

As the MDG target date of 2015 approached, world leaders agreed to renew their commitment to global development by adopting a new set of goals. In September 2015, the General Assembly adopted the 2030 Agenda for Sustainable Development, which includes 17 ambitious goals aiming to ensure a sustainable future for humanity.<sup>2</sup> These Sustainable Development Goals, together with 169 targets that further specify the desired achievements, are intended to guide the actions of Governments and the international community through 2030. Goal 3 on healthy lives and well-being includes targets related to human mortality and health, including reduction of neonatal, child and maternal mortality, reduction of premature mortality from non-communicable diseases, and eradication of the AIDS epidemic. In addition, the 2030 Agenda gives special attention to causes of death associated with poverty (Goal 1), labour insecurity (Goal 8), disasters (Goal 11), climate change (Goal 13) and violence (Goal 16).

The present report assesses the extent of the improvements in survival that have been achieved since the Cairo conference. It reviews and monitors progress towards the achievement of health-related goals and objective established by the 1994 conference, as well as related targets of the Sustainable Development Goals adopted in 2015.

### **B. THE CAIRO AGREEMENT AND ITS OBJECTIVES ON HEALTH, MORBIDITY AND MORTALITY**

In September 1994 thousands of delegates representing Governments, non-governmental organizations (NGOs), United Nations agencies and other stakeholders gathered in Cairo, Egypt, to discuss the linkages between development and myriad population issues, such as population growth, infant and child mortality, fertility and family planning, maternal and reproductive health, access to education, population ageing, migration and urbanization. The resulting Programme of Action, adopted by 179 countries (United Nations, 1994), is widely heralded as a critical milestone in the history of population and development and of

---

<sup>1</sup> General Assembly resolution 65/234

<sup>2</sup> General Assembly resolution 70/1

women's rights. The Programme of Action reflected a new global consensus that placed human rights, including reproductive rights, at the centre of the discussion of linkages between population growth and poverty eradication. It highlighted a woman's ability to access reproductive health care, including family planning, as both a cornerstone of her empowerment and a key element in a country's path towards sustainable development.

Although the Programme of Action is best known for its goals and objectives related to reproductive health and the empowerment of women, many other population-related topics were considered as well, including several related to human mortality and survival. Chapter VIII, which was devoted to health, morbidity and mortality in the context of population and development, recognized that increased longevity was one of the major achievements of the twentieth century, and that life expectancy at birth had increased by nearly 20 years since the 1950s. At the same time, the Programme of Action cautioned that some countries, and certain population groups within countries, had not shared these improvements. In 1994, preventable or treatable illnesses were still the leading cause of death among young children globally, despite the existence of effective, low-cost interventions such as oral rehydration therapy and childhood vaccinations. Billions of people lacked access to clean water and sanitation and to adequate nutrition. Infectious, parasitic and water-borne illnesses remained a major threat. In addition, the Cairo agreement recognized the emerging health threats caused by environmental degradation or use of tobacco, alcohol and drugs, and it drew attention to the reversal of previous gains in survival that was underway in many countries with economies in transition.

Each chapter of the Programme of Action identified various objectives that the international community should aspire to achieve, as well as specific actions to be undertaken in pursuit of those goals. Chapter VIII contains the following four sections: a) primary health care and the health-care sector, b) child survival and health, c) women's health and safe motherhood, and d) HIV and AIDS.

In the section on primary health care and the health-care sector, the objectives are to increase access to and use of health-care services for all people and to improve healthy life-span and quality of life, including by reducing disparities in life expectancy between men and women and across geographical regions, social classes, and indigenous and ethnic groups. Recommended actions highlight the centrality of basic primary health care and health promotion strategies. The Programme of Action recognized the important association between environmental conditions and health risks and called upon Governments to monitor the impact of factors such as crowded housing, air pollution, unimproved water and sanitation, and workplace hazards on the health of the population.

The objectives with respect to child survival and health are to reduce disparities between and within developed and developing countries, giving priority to reducing the major childhood diseases, particularly infectious and parasitic diseases, and improving the health and nutritional status of infants, especially the girl child, including by promoting breast-feeding as a child-survival strategy. Recommended actions include promoting reproductive health care and services, such as family planning, prenatal care, maternal nutrition, skilled delivery assistance and neonatal care. Poverty eradication and ensuring sanitary environments and adequate nutrition to reduce the major childhood diseases, especially infectious and parasitic diseases, were also emphasized.

Objectives within the women's health and safe motherhood section of Chapter VIII include a rapid and substantial reduction in maternal mortality and morbidity, including a reduction of disparities in mortality risks between and within developed and developing countries. Other objectives aimed to reduce the number

of deaths and morbidity from unsafe abortion and to improve the health and nutritional status of women, especially those who are pregnant or nursing. Actions emphasize the importance of expanding the provision of maternal health-care services within the context of primary health care. They identify high-risk pregnancies, particularly those to adolescents and high-parity women, as needing special attention. The benefits of encouraging men to share responsibility for promoting sexual and reproductive health, including for the practice of family planning and the prevention and control of sexually transmitted diseases, were acknowledged as well.

HIV/AIDS was a relatively new global health threat in 1994 at the time of the Cairo conference. The international community was only beginning to understand the magnitude of the epidemic and the potential for the virus to spread rapidly. Drugs to prevent mother-to-child transmission were still under development and highly active antiretroviral treatment (ART) had not yet moved beyond research laboratories to become the standard for HIV care that it is today (Palmisano and Vella, 2011). Therefore, the objectives in this section of the Programme of Action focus on minimizing the future spread and impact of HIV and on eliminating discrimination and ensuring access to high-quality medical care for persons living with HIV/AIDS.

The Commission on Population and Development plays a primary role in the follow-up and review of the Programme of Action, assisting the Economic and Social Council in monitoring and assessing the progress of implementation at the national, regional and international levels. During its annual sessions, the Commission addresses the various issues contained in the Programme of Action. Since 1994, the Commission has adopted four resolutions focusing on health, morbidity and mortality, often with an explicit focus on sexual and reproductive health and reproductive rights.<sup>3</sup> Other resolutions of the Commission focusing on other topics have often addressed issues of health, in particular reproductive health, in a complementary manner.<sup>4</sup>

In its resolutions, the Commission has urged Governments to strengthen primary health care and health systems, emphasizing the interlinkages between health and poverty. The Commission has also addressed evolving health trends, building on and strengthening the health-related language of the Programme of Action. For example, the Commission has recurrently urged Governments to redouble efforts to reduce maternal morbidity and mortality by ensuring universal access to reproductive health care, including for family planning. In the resolution adopted at its thirty-eighth session, the Commission urged that efforts to achieve universal access to HIV prevention, treatment, care and support be intensified, highlighting the feminization of the pandemic in some regions, the effects of the disease on children, adolescents and youth, and the need to develop vaccines and microbicides.<sup>5</sup> In 2009, recognizing the contribution of the Programme of Action to the internationally agreed development goals, the Commission stressed the importance of meeting the MDG target to halt and reverse the spread of HIV by 2015.<sup>6</sup>

The Commission has also highlighted emerging health trends in relation to future and emerging population trends and has called attention to health challenges that were not emphasized in the Programme of Action, such as neglected tropical diseases or road accidents. Furthermore, the Commission has acknowledged the increasing burden of non-communicable diseases as well as the double burden for health

---

<sup>3</sup> Resolution 1998/1 on Health and mortality, resolution 2002/1 on Reproductive rights and reproductive health, including human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), resolution 2005/1 on Population, development and HIV/AIDS, with particular emphasis on poverty, and resolution 2010/1 on Health, morbidity, mortality and development.

<sup>4</sup> For details, see: [www.un.org/en/development/desa/population/commission/resolutions/index.asp](http://www.un.org/en/development/desa/population/commission/resolutions/index.asp)

<sup>5</sup> Available at [www.un.org/en/development/desa/population/commission/pdf/38/CPD38\\_Res2005-1.pdf](http://www.un.org/en/development/desa/population/commission/pdf/38/CPD38_Res2005-1.pdf)

<sup>6</sup> Available at: [www.un.org/en/development/desa/population/commission/pdf/42/CPD42\\_Res2009-1.pdf](http://www.un.org/en/development/desa/population/commission/pdf/42/CPD42_Res2009-1.pdf)

systems still coping with communicable diseases. It has called for mitigating major risk factors for non-communicable diseases, including by preventing tobacco use and increasing awareness of the importance of a healthy diet and physical activity.

The Commission has also addressed the essential role of health-related data, and population data in particular, in building the evidence base to support the implementation, follow-up and review of policies and programmes aligned with the Programme of Action or the 2030 Agenda for Sustainable Development. In its resolution 2016/1, the Commission emphasized the importance of producing high-quality, accessible, timely and reliable disaggregated demographic data, and called for strengthening civil registration and vital statistics, and health information systems, as well as censuses, household surveys, population registers and other relevant administrative data sources, required for measuring progress and highlighting gaps and recurrent challenges in implementation.<sup>7</sup>

At its forty-seventh session, in 2014, the Commission undertook a comprehensive assessment of the status of implementation of the Programme of Action of the International Conference on Population and Development. During the session, particular attention was given to areas of shortfall in implementation, including for goals related to extending life expectancy and promoting physical and mental health and well-being at all ages.<sup>8</sup> Since the adoption of the 2030 Agenda, the Commission has contributed to reviews of progress on the Sustainable Development Goals in the context of its primary mandate to review, monitor and assess the status implementation of the Programme of Action.

Since 1994, the United Nations General Assembly has marked the quinquennial anniversaries of the Programme of Action. Pursuant to resolution 67/250, in September 2014, the General Assembly held a special session on the occasion of the 20th anniversary of Cairo conference, during which world leaders reaffirmed their commitment to the goals and objectives of the Programme of Action. In July 2019, the General Assembly commemorated the 25th anniversary of the ICPD.<sup>9</sup>

### C. LINKAGES BETWEEN THE CAIRO AGREEMENT AND THE 2030 AGENDA

The Programme of Action adopted by consensus in 1994 at the Cairo conference reiterated or extended some targets that had been put forth in a 1977 resolution of the World Health Assembly.<sup>10</sup> Some of its targets were later incorporated into, or were an inspiration for, the Millennium Development Goals and the Sustainable Development Goals.

By addressing a large number of persistent and emerging health issues, the Sustainable Development Goals broadened the scope of the global development agenda in the area of health. In addition to health issues addressed in the Cairo agreement and in the MDGs, Goal 3 on healthy lives and well-being includes a range of new topics, such as non-communicable diseases, road traffic accidents, hazardous chemicals, air, water and soil pollution and contamination, and mental illness.<sup>11</sup> Furthermore, additional mortality-related targets and indicators under Goals 1, 8, 11, 13 and 16 reflect the concern of the international community

---

<sup>7</sup> Available at: [www.un.org/en/development/desa/population/pdf/commission/2016/documents/CPD49%20Resolution%202.pdf](http://www.un.org/en/development/desa/population/pdf/commission/2016/documents/CPD49%20Resolution%202.pdf)

<sup>8</sup> Available at: [www.un.org/en/development/desa/population/pdf/commission/2014/documents/CPD47\\_Resolution\\_2014\\_1.pdf](http://www.un.org/en/development/desa/population/pdf/commission/2014/documents/CPD47_Resolution_2014_1.pdf)

<sup>9</sup> General Assembly resolution 73/303

<sup>10</sup> World Health Assembly resolution 30 (1977).

<sup>11</sup> The status of implementation of SDG 3 was reviewed in-depth at the high-level political forum on sustainable development, held at the United Nations in New York from 10 to 19 July 2017, along with SDGs 1, 2, 5, 9, 14 and 17.



for other issues affecting the health and well-being of the global population, including disasters, occupational hazards and political violence.

The following sections present a summary of targets aimed at addressing mortality and morbidity as outlined in these international agreements, namely, the goals and objectives of the Programme of Action of the 1994 International Conference on Population and Development, the Millennium Development Goals, derived from the Millennium Declaration,<sup>12</sup> and the Sustainable Development Goals of the 2030 Agenda for Sustainable Development. The review indicates whether various health- or mortality-related topics are included in the three frameworks, and describes the associated objectives and quantitative targets.

### 1. Life expectancy

Chapter VIII of the Programme of Action called upon countries to set targets for improved survival across the lifespan, aiming to achieve a life expectancy at birth greater than 70 years by 2005 and greater than 75 years by 2015. Recognizing that these targets might prove daunting for countries with the highest levels of mortality in 1994, the Programme of Action suggested that countries with the highest levels of mortality should aim to increase the life expectancy of their populations to greater than 70 years by 2015.<sup>13</sup> These survival goals were more ambitious than those advanced 17 years earlier in the World Health Assembly resolution (see above), which had aimed for all countries to achieve life expectancy at birth of at least 60 years in 2000. The MDGs and SDGs omitted a life expectancy target in favour of setting targets based on reducing child mortality and mortality due to specific causes, such as maternal causes and HIV/AIDS (table I.1).

TABLE I.1. TARGETS FOR LIFE EXPECTANCY AT BIRTH

<i>ICPD Programme of Action (1994)</i>	<i>Millennium Development Goals (2000)</i>	<i>Sustainable Development Goals (2015)</i>
Achieve life expectancy greater than 70 years by 2005 and greater than 75 years by 2015.  For countries with the highest mortality, achieve life expectancy at birth greater than 65 years by 2005 and greater than 70 years by 2015.	No specific target.	No specific target.

Dimensions of health and longevity were also integrated into the human development approach developed by the United Nations Development Programme (UNDP) in the early 1990s. Human development is understood in this approach to be “a process of enlarging people’s choices” (UNDP 1990, p.10). The framework itemizes three essential life conditions, without which many other opportunities remain unreachable: leading a long and healthy life, representing the health dimension; being educated, for the knowledge dimension; and having access to the resources needed for a decent standard of living, for the material dimension. Within the Human Development Index (HDI), created to summarize progress and gaps

<sup>12</sup> The Millennium Declaration was superseded by the 2030 Agenda.

<sup>13</sup> The ICPD survival goals are ambiguous as no official classification of countries by level of mortality was adopted. In other words, a formal goal for a country could be 70 or 75 years depending if the country was classified as a country with “the highest levels of mortality” or not. To resolve this ambiguity, the level of life expectancy at birth corresponding to the 25th percentile of all 201 countries or areas analysed in this report in a given year is used as a threshold to classify whether mortality in a country is the “highest” (“high” for short) or not. In 1994, this level was 58.5 years. Consequently, countries with life expectancy at birth of 60 years or less were classified as high-mortality countries, and the rest as low-mortality countries.

in human development in these three components, life expectancy at birth has been used as a proxy indicator for the health dimension.

Life expectancy at birth has also been incorporated into two complementary indices developed to account for disparities in human development achievement: the Inequality-adjusted Human Development Index (IHDI) and the Gender Development Index (GDI). The refined measures of life expectancy at birth incorporated in these two indices take into account the distribution of the variable across the population and between men and women, respectively. As an example, by accounting for inequalities, the 2017 global HDI value fell from 0.728 to 0.582, suggesting an average loss in the global HDI value of about 20 per cent due to inequality. At the global level, inequality in life expectancy contributed the least to the overall inequality out of the three dimensions of the HDI, with inequality in income contributing the most, followed by inequality in education (UNDP, 2018).

## 2. *Infant and child mortality*

The infant mortality rate (IMR) and the under-five mortality rate (U5MR) are closely watched public health indicators, as they reflect the access of children and communities to basic health interventions such as vaccination, medical treatment of infectious diseases and adequate nutrition.<sup>14</sup> With respect to these two indicators, the ICPD Programme of Action embraced the absolute targets of the World Health Assembly's Global Strategy for Health for All by the Year 2000,<sup>15</sup> which proposed a goal for all countries to achieve an infant mortality rate of less than 50 deaths per 1,000 live births and an under-five mortality rate of less than 70 deaths per 1,000 live births by 2000. For countries that already had comparatively low levels of infant and child mortality in 1994, the Programme of Action offered relative targets, namely reductions of one third in infant and child mortality rates by 2000. For horizons beyond 2000, the Programme of Action again identified absolute targets, urging countries to achieve an infant mortality rate below 35 deaths per 1,000 live births and an under-five mortality rate below 45 deaths per 1,000 live births by 2015. A reduction by two thirds in the under-five mortality rate between 1990 and 2015 was later adopted as a target under MDG 4, while an absolute target for child mortality was later reintroduced under target 3.2 of the SDGs, which calls for reducing the level of under-five mortality to no more than 25 deaths under age 5 per 1,000 live births by 2030. No SDG target was specified for the infant mortality rate. However, recognizing the urgency of reducing preventable deaths during the vulnerable days and weeks following birth, a target was established aiming to reduce the neonatal mortality rate to no more than 12 deaths in the first four weeks of life per 1,000 live births (table I.2).<sup>16</sup>

<sup>14</sup> In this report, under-five mortality and child mortality are used interchangeably.

<sup>15</sup> World Health Assembly resolution 34.36 (1981).

<sup>16</sup> Formally, the neonatal mortality rate is the probability that a newborn will die during the first four weeks (28 days) of life, typically expressed per 1,000 live births.

TABLE I.2. TARGETS FOR INFANT AND CHILD MORTALITY

<i>ICPD Programme of Action (1994)</i>	<i>Millennium Development Goals (2000)</i>	<i>Sustainable Development Goals (2015)</i>
<p>Reduce IMR by one third or to 50 infant deaths per 1,000 live births, whichever is lower, by 2000.</p> <p>For countries with intermediate mortality levels, achieve an IMR below 50 infant deaths per 1,000 births by 2005.</p> <p>Achieve an IMR below 35 infant deaths per 1,000 live births by 2015. For countries that achieved this level earlier, reduce U5MR further.</p>	<p>No specific target.</p>	<p>No specific IMR target.</p> <p>New target for neonatal mortality: By 2030, end preventable deaths of newborns, with all countries aiming to reduce neonatal mortality to at least as low as 12 neonatal deaths per 1,000 live births (SDG target 3.2).</p>
<p>Reduce U5MR by one-third or to 70 under age 5 per 1,000 live births, whichever is lower, by 2000.</p> <p>For countries with intermediate mortality levels, achieve an U5MR below 60 deaths under age 5 per 1,000 live births by 2005.</p> <p>Achieve an U5MR below 45 deaths under age 5 per 1,000 live births by 2015. For countries that achieved this level earlier, reduce U5MR further.</p>	<p>Reduce the 1990 U5MR by two thirds by 2015. (MDG target 4a).</p>	<p>By 2030, end preventable deaths of children under 5 years of age, with all countries aiming to reduce the U5MR to at least as low as 25 deaths under age 5 per 1,000 live births (SDG target 3.2).</p>

### 3. Maternal mortality

On maternal mortality, the Programme of Action called for a reduction by one half between 1990 and 2000, and a further reduction by one half between 2000 and 2015. Countries with intermediate levels of mortality were to aim to achieve, by the year 2005, a maternal mortality ratio (MMR) below 100 maternal deaths per 100,000 live births and, by 2015, a ratio below 60 per 100,000. Meanwhile, countries with the highest levels of mortality were urged to achieve, by 2005, a maternal mortality ratio below 125 maternal deaths per 100,000 live births and, by 2015, a ratio less than 75 per 100,000. The maternal mortality target of the Millennium Development Goals abandoned the absolute targets specified in the Programme of Action but adopted an equivalent relative target, calling for a reduction by three quarters in the maternal mortality ratio between 1990 and 2015. Unlike the MDGs, the Sustainable Development Goals include an absolute target, aiming at a reduction in the global maternal mortality ratio to below 70 maternal deaths per 100,000 live births by 2030 (SDG target 3.1) (table I.3).

TABLE I.3. TARGETS FOR MATERNAL MORTALITY

<i>ICPD Programme of Action (1994)</i>	<i>Millennium Development Goals (2000)</i>	<i>Sustainable Development Goals (2015)</i>
<p>Reduce the 1990 MMR by one half by 2000 and again by one half between 2000 and 2015.</p> <p>For countries with intermediate levels of mortality, achieve an MMR less than 100 maternal deaths per 100,000 live births by 2005 and less than 60 maternal deaths per 100,000 live births by 2015.</p> <p>For countries with the highest levels of mortality, achieve an MMR below 125 per 100,000 live births by 2005 and below 75 per 100,000 live births by 2015.</p>	<p>Reduce the 1990 MMR by three quarters by 2015 (MDG target 5a).</p>	<p>By 2030, reduce the global maternal mortality ratio to less than 70 maternal deaths per 100,000 live births (SDG target 3.1).</p>

#### 4. HIV/AIDS

The Global Strategy for Health for All by the Year 2000, adopted by the World Health Assembly in 1977, and the Declaration of Alma-Ata that followed in 1978, preceded the advent of the global HIV/AIDS epidemic. Despite the fact that extensive research into the origins, prevention and treatment of HIV was underway already in 1994 at the time of the Cairo conference, effective vaccines and treatments were still lacking. As a result, the Programme of Action contained no survival targets specifically aimed towards a reduction of AIDS-related mortality. Instead, the objectives and actions focus on preventing future incidence of the disease. Similarly, the 2000 Millennium Declaration pinpointed the reduction of HIV incidence as its priority, rather than the explicit reduction of AIDS-related mortality. It set goals of having halted and begun to reverse the spread of HIV/AIDS by 2015 and achieving universal access to treatment for all those who need it by 2010. Antiretroviral therapy (ART) both prolongs the lives of people living with HIV and reduces the probability of HIV transmission (UNAIDS, 2019a). Pushing further, the 2030 Agenda for Sustainable Development seeks to end the AIDS epidemic, as well as the epidemics of tuberculosis, malaria and neglected tropical diseases, while also combatting hepatitis, water-borne diseases and other communicable diseases (table I.4).

TABLE I.4. TARGETS FOR HIV/AIDS, TUBERCULOSIS, MALARIA AND NEGLECTED TROPICAL DISEASES

<i>ICPD Programme of Action (1994)</i>	<i>Millennium Development Goals (2000)</i>	<i>Sustainable Development Goals (2015)</i>
While the Programme of Action did not specify targets for the reduction of AIDS-related mortality, it prioritized the reduction of HIV incidence.	<p>Halt and reverse the spread of HIV/AIDS by 2015 (MDG target 6a).</p> <p>Achieve universal access to treatment for all who need it by 2010 (MDG target 6b).</p> <p>Halt by 2015 and begin to reverse the incidence of malaria and other major diseases (MDG target 6.c).</p>	By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases (SDG target 3.3).

### 5. Other causes of death including non-communicable diseases (NCDs)

While many countries are still struggling to eradicate premature deaths from communicable diseases, progress against non-communicable causes of premature death depends largely on controlling relevant risk factors, such as tobacco use, unhealthy diets and lack of physical exercise. At the core of the observed disparities in health, survival and longevity is uneven progress in socioeconomic development, including in public health and education. The 2030 Agenda includes a specific target aimed at reducing by one third premature mortality from non-communicable diseases through prevention and treatment by 2030 (SDG target 3.4).<sup>17</sup>

To guide the implementation of target 3.4 of the SDGs, Governments endorsed the *Montevideo Roadmap 2018-2030 on NCDs as a Sustainable Development Priority*<sup>18</sup> in 2017. That document recognizes that non-communicable diseases continue to constitute one of the major challenges for sustainable development. Previous international commitments included the 2011 political declaration of the General Assembly on NCDs and WHO's *Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020*. Neither the Programme of Action nor the MDGs included a specific goal or target aimed at tackling the impact of non-communicable diseases on health and mortality (table I.5).

<sup>17</sup> Four main types of NCDs are considered: cardiovascular diseases, cancers, chronic respiratory diseases and diabetes. The target includes two indicators, namely (1) the percentage of 30-year-old people who would die before their 70th birthday from one of these main types of NCDs and (2) the number of suicide deaths in a given year divided by the population, expressed per 100,000 persons.

<sup>18</sup> *Montevideo Roadmap 2018-2030 on NCDs as a Sustainable Development Priority*, WHO Global Conference on Noncommunicable Diseases, Pursuing policy coherence to achieve SDG target 3.4 on NCDs, Montevideo, 18-20 October 2017, available from: [www.who.int/conferences/global-ncd-conference/Roadmap.pdf](http://www.who.int/conferences/global-ncd-conference/Roadmap.pdf)

TABLE I.5. TARGETS FOR NON-COMMUNICABLE DISEASES

<i>ICPD Programme of Action (1994)</i>	<i>Millennium Development Goals (2000)</i>	<i>Sustainable Development Goals (2015)</i>
<p>While the Programme of Action did not specify targets addressing NCDs, it recognized that the growing consumption of tobacco, alcohol and drugs would precipitate a marked increase in costly chronic diseases among working-age adults and older persons.</p> <p>It also acknowledged the concerns raised in many countries about the health effects of environmental degradation and exposure to hazardous substances in the workplace.</p> <p>In addition, the Programme of Action called for the accessibility of services for the diagnosis and treatment of breast cancer and cancers of the reproductive system.</p>	No specific target.	<p>By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being (SDG target 3.4). (Indicators: (1) Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease (2) Suicide mortality rate.)</p> <p>By 2020, halve the number of global deaths and injuries from road traffic accidents (SDG target 3.6).</p> <p>By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination (SDG target 3.9).</p> <p>By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disaster (SDG target 1.5). (Indicator: Number of deaths, missing persons and persons affected by disaster per 100,000 people.)</p> <p>Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment (SDG target 8.8). (Indicator: Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status.)</p> <p>By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations (SDG target 11.5).</p> <p>Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries (SDG target 13.1). (Indicator: Number of deaths, missing persons and persons affected by disaster per 100,000 people.)</p> <p>Significantly reduce all forms of violence and related death rates everywhere (SDG target 16.1).</p>

## II. GLOBAL AND REGIONAL LEVELS AND TRENDS IN MORTALITY

### A. INTRODUCTION

This chapter reviews levels and trends in indicators of mortality and longevity, including life expectancy at birth, infant and under-five mortality, the probability of dying between ages 15 and 60, and remaining life expectancy at age 60. In order to provide a historical perspective on the mortality transition, trends are shown from 1950 to the present. However, greater emphasis is given to the period since the International Conference on Population and Development in 1994. To illustrate the extent of disparities in survival between regions as well as the similarities and differences in regional trends, mortality estimates are shown for the eight geographic regions being used to track progress towards the Sustainable Development Goals.<sup>19</sup>

All estimates presented in this chapter are derived directly from *World Population Prospects 2019* (United Nations, 2019a) or computed separately, based on the data included in that publication.<sup>20</sup> Mortality estimates are presented for single-year periods starting from 1950 and through 2019. Estimates for 1995 reflect the global status of mortality just after the 1994 conference. Estimates for 2015 portray mortality 20 years later and are used to assess countries' progress towards the survival targets articulated in 1994. It should be noted that estimates referring to 2019 are in fact projections based on extrapolation of past trends. For countries with up-to-date statistics from death registration, the most recent data that were available for *World Population Prospects 2019* typically refer to the year 2017 or earlier. For countries where mortality estimates have to be derived from alternative data sources such as censuses or demographic surveys, the latest reference period available may be several years in the past. Censuses, for example, are typically taken every 10 years, with the latest census for many countries dating from around 2010.

### B. LIFE EXPECTANCY AT BIRTH

Life expectancy is a barometer of a society's health. Beyond being a key indicator of the health and well-being of a population, it is, in a sense, an indirect indicator of poverty, stress, cohesion and stability — and of a government's willingness or ability to safeguard the public health.<sup>21</sup> Life expectancy is computed as a summary indicator of mortality rates in a population across all ages for a given period. It expresses the average number of years a person would live if mortality in a population remained unchanged over his or her lifetime at current levels.

The world has experienced significant increases in life expectancy at birth over the past seven decades. In 1950, global life expectancy stood at 45.7 years. At the time of the Cairo conference in 1994, major progress in survival had already been achieved. Life expectancy at birth had increased to 64.9 years, a gain of 19.2 years. Over the next 25 years, life expectancy continued to increase, adding another 7.7 years and reaching 72.6 years in 2019. From 1950 until 1994, 45 per cent of the increase in life expectancy at birth

---

<sup>19</sup> The regions referred to throughout this report are those used to track progress towards the Sustainable Development Goals of the United Nations (see: <https://unstats.un.org/sdgs/indicators/regional-groups>).

<sup>20</sup> To compute annual period mortality indicators, including components of mortality change, we computed annual complete life tables based on abridged quinquennial life tables published in *World Population Prospects 2019*.

<sup>21</sup> For this reason, this indicator was selected as the first component of UNDP's Human Development Index. The other two are education and gross national income (see: <http://hdr.undp.org/en/content/human-development-index-hdi>).

was due to declines in mortality below age 5; another 32 per cent was due to declines in mortality among working-age adults, while declines above age 60 and between ages 5 and 14 contributed 13 and 10 per cent, respectively<sup>22</sup>. Since 2015, the decline in under-five mortality has continued to contribute most to the improvement of life expectancy, 47 per cent. However, the contribution of the decline in mortality at older ages doubled to 27 per cent, while the contribution of changes in the working age range and at ages between 5 and 14 dropped to 22 and 4 per cent, respectively.

All regions shared in the reduction of mortality over this period. Gains in life expectancy at birth over the entire period, from 1950 to 2019, ranged from 14.3 years in Australia and New Zealand to 33.4 years in Central and Southern Asia, where life expectancy at birth now stands at almost 70 years. Australia and New Zealand is the only region, among those considered here, where life expectancy at birth now exceeds 80 years, having reached 83.2 years in 2019. Life expectancy gains in excess of the global average of 26.9 years took place in Central and Southern Asia, Western Asia and Northern Africa, and Eastern and South-Eastern Asia. In regions with higher levels of life expectancy, such as Australia and New Zealand or Europe and Northern America, the gains were approximately half as large as the global average. Nevertheless, both regions retained their leading positions in the survival prospects of individuals. In sub-Saharan Africa, life expectancy at birth was well below 40 years in the early 1950s, comparable to levels observed in Central and Southern Asia or in Oceania excluding Australia and New Zealand. Over the entire period from 1950 to 2019, sub-Saharan Africa registered a slower gain in life expectancy at birth than the world as a whole (figure II.1).

Globally, the pace of increase in life expectancy at birth decelerated after 1994. While the average increase of life expectancy at birth was about 4.3 years per decade over the period 1950-1994, it declined to 3.1 years per decade after 1994 (table II.1). The world's average pace of increase in survival was at its lowest during the 1990s due to both rapidly increasing mortality in sub-Saharan Africa caused by HIV/AIDS and rising mortality in Eastern Europe following the breakup of the Soviet Union. In sub-Saharan Africa, life expectancy levelled off in the late 1980s and fell during the 1990s, but then it rebounded in the mid-2000s and continued rising in the 2010s (figure II.1). Thanks to rapid improvements since the mid-2000s, life expectancy at birth in sub-Saharan Africa increased from 49.1 years in 1994 to 61.1 years in 2019. This 12-year gain was the largest observed among all regions. In Europe and Northern America, mortality decline also accelerated in the 2000s, bringing the average gain of life expectancy per decade (2.0 years) close to the pre-1994 period (2.3 years). Apart from sub-Saharan Africa, only the region consisting of Australia and New Zealand saw a faster increase in life expectancy at birth after 1994 (2.2 years per decade) than before (2.0 years). Over the past five years, however, the world has again experienced a slowdown in the rise of life expectancy, driven largely by a deceleration of the decline in mortality in sub-Saharan Africa, Central and Southern Asia, and Europe and Northern America.<sup>23</sup>

Although regional gaps in survival have narrowed over the past few decades, significant disparities persist. In the early 1950s, life expectancy at birth in Australia and New Zealand was above 69 years, while in sub-Saharan Africa, Central and Southern Asia, and Oceania excluding Australia and New Zealand, it was about 37 years — a difference of 32 years. By 1994, the difference between the world's longest-lived (Australia and New Zealand) and shortest-lived regions (sub-Saharan Africa) dropped by about 5 years to 27 years; by 2019, this gap had narrowed further to about 22 years. Because the reduction of mortality in Oceania excluding Australia and New Zealand and in Central and Southern Asia exceeded the reduction in sub-Saharan Africa, the gap in life expectancy between Australia and New Zealand and these two regions

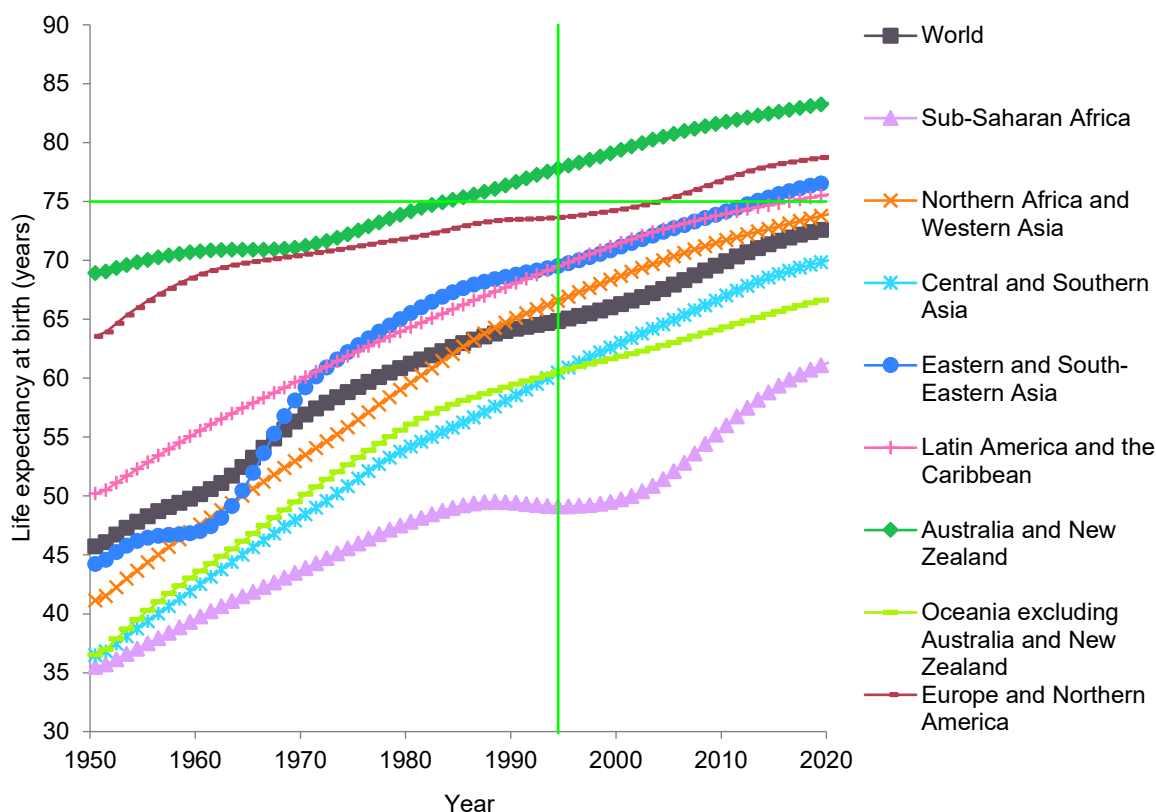
<sup>22</sup> “Adult mortality” refers to ages 15-59 while “mortality at older ages” refers to ages 60 and older.

<sup>23</sup> See *World Population Prospects 2019*.



fell to only 17 and 13 years, respectively, in 2019. Between 1950 and 2019, the gap in life expectancy at birth between Australia and New Zealand and the world average dropped from 23 to 11 years.

Figure II.1. Life expectancy at birth, world and by region, 1950-2019



Source: United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.  
 Note: The vertical green line indicates the year 1994, when the ICPD took place. The horizontal green line shows the Programme of Action target life expectancy at birth of 75 years, to be reached by 2015.

The Programme of Action adopted in Cairo in 1994 set targets for improved survival across the lifespan, aiming to achieve a life expectancy at birth greater than 70 years by 2015 for the high-mortality countries<sup>13</sup> and 75 years for the rest of the world. In 1994, sub-Saharan Africa could be classified as a high-mortality region with a survival target of 70 years by 2015, whereas for all other regions, and for the world as a whole, the survival target of 75 years was chosen (figure II.2.A).

If the world had made the same progress in reducing mortality in the two decades after 1994 as it had made in the period 1950 to 1994, there would have been an additional gain of about nine years of global life expectancy by 2015.<sup>24</sup> As can be seen from figure 2, for some regions the targets established in 1994 were extremely ambitious. For sub-Saharan Africa, for example, the average life span needed to increase by 21 years to meet the target, which would have required a doubling in the pace of reducing mortality rates after 1994. In Oceania excluding Australia and New Zealand and in Central and Southern Asia, the goal was to increase life expectancy at birth by 14 and 15 years, respectively, well above the global average. Conversely, meeting the target required a less-than-average increase in Eastern and South-Eastern Asia,

<sup>24</sup> The world's average pace of increase in life expectancy at birth over the period 1950-1994 was 4.3 years per decade (table 6). This corresponds to a gain of about 9 years over the initial implementation period of the ICPD Programme of Action:  $9.03 = 4.3 / 10 * (2015-1994)$ .

Latin America and the Caribbean, and Western Asia and Northern Africa (5, 6, and 8 years, respectively). In 1994, the region of Europe and Northern America was below the goal by slightly more than a year, whereas life expectancy at birth in Australia and New Zealand had already exceeded 75 years one decade before the 1994 conference.

Between 1994 and 2015, only two regions — Europe and Northern America, and Eastern and South-Eastern Asia — reached the survival goals established by the Cairo agreement (figure II.2.B). Latin America and the Caribbean reached the goal shortly thereafter, in 2016. In the two decades following the conference in 1994, Europe and Northern America recorded the slowest improvement in mortality among the regions considered here, and it took about a decade to add just one year to reach the target life expectancy of 75 years. Other regions, as well as the world as a whole, failed to reach the goals for life expectancy at birth by 2015, and they remain below those targets even today. According to *World Population Prospects 2019*, which predicts a further slowdown in survival gains,<sup>25</sup> Central and Southern Asia is not expected to achieve a life expectancy of 75 years until the middle of the century; Oceania excluding Australia and New Zealand, not until 2085; and sub-Saharan Africa, not until the end of the century. For comparison, Australia and New Zealand reached the same level of life expectancy at birth in 1984, implying that some regions are lagging behind the world leaders by a century or more in terms of population health and survival.

TABLE II.1. LIFE EXPECTANCY AT BIRTH, WORLD AND BY REGION, 1950, 1994 AND 2019

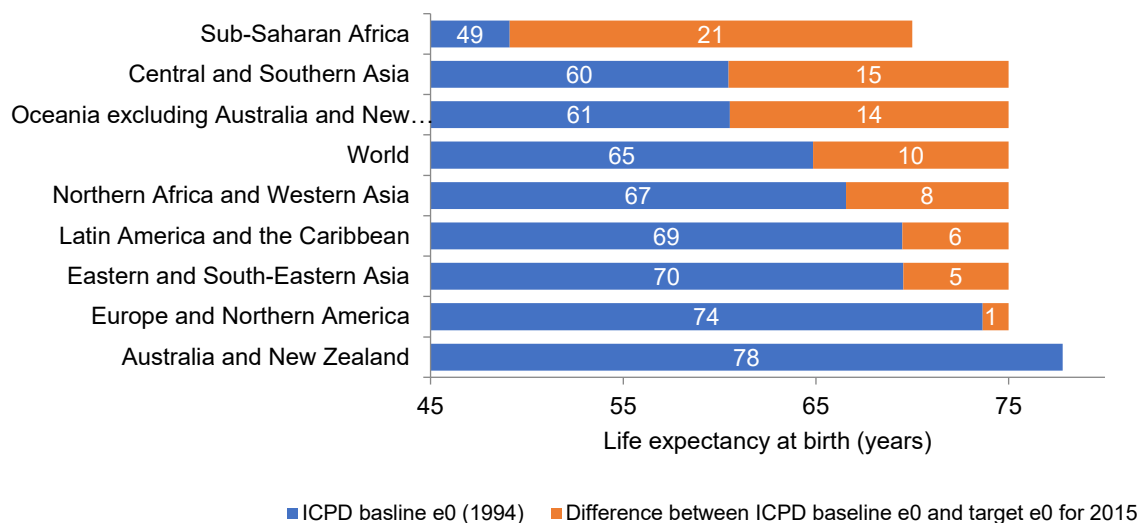
	Life expectancy at birth (years)			Total gain in life expectancy (years)			Average gain in life expectancy per decade (years)		
	1950	1994	2019	1950 to 1994	1994 to 2019	1950 to 2019	1950 to 1994	1994 to 2019	1950 to 2019
<b>World</b>	<b>45.7</b>	<b>64.9</b>	<b>72.6</b>	<b>19.1</b>	<b>7.7</b>	<b>26.9</b>	<b>4.3</b>	<b>3.1</b>	<b>3.9</b>
Sub-Saharan Africa	35.5	49.1	61.1	13.6	12.0	25.6	3.1	4.8	3.7
Northern Africa and Western Asia	41.1	66.6	73.8	25.4	7.2	32.6	5.8	2.9	4.7
Central and Southern Asia	36.5	60.5	69.9	24.0	9.4	33.4	5.5	3.8	4.8
Eastern and South-Eastern Asia	44.2	69.5	76.5	25.3	7.0	32.3	5.8	2.8	4.7
Latin America and the Caribbean	50.2	69.5	75.5	19.3	6.0	25.3	4.4	2.4	3.7
Oceania excluding Australia and New Zealand	36.5	60.5	66.6	24.0	6.1	30.1	5.5	2.4	4.4
Australia and New Zealand	68.9	77.8	83.2	8.9	5.4	14.3	2.0	2.2	2.1
Europe and Northern America	63.5	73.6	78.7	10.1	5.1	15.2	2.3	2.0	2.2

Source: United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.

<sup>25</sup> Over the period 2019-2100, the average increase in the life expectancy at birth is expected to be 1.2 years per decade, close to one third of the pace over the 1950-2019 period, equaling 3.9 years per decade (table II.1).

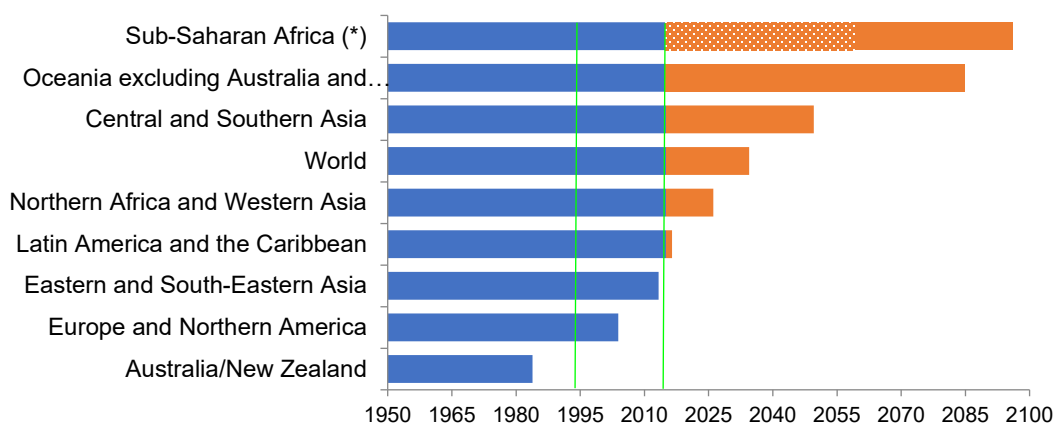
**Figure II.2. Life expectancy at birth in 1994 and ICPD targets for 2015, world and by region**

A. Life expectancy at birth in 1994 compared to target for 2015



*Note:* Blue bars show baseline levels of life expectancy at birth in 1994. Red bars indicate the difference (in years) between the baseline and the target for 2015 established by the ICPD. Regions are ordered according to the difference between baseline and target values. For countries with high levels of mortality in 1994, the 2015 target was set at 70 years, which was used here as the target for sub-Saharan Africa. For other countries and regions, and for the world as a whole, the ICPD established a 2015 target of 75 years. By 1994, that level had already been surpassed by some countries and areas, including Australia and New Zealand.

B. Years when target has been or is expected to be achieved



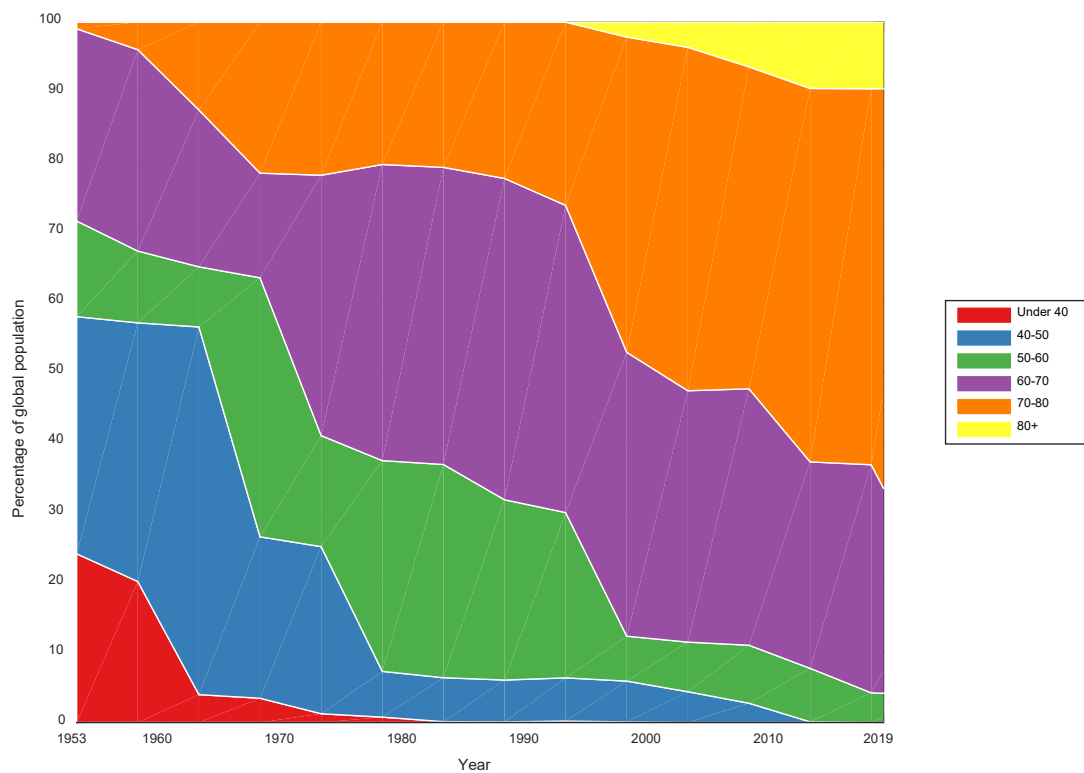
*Note:* Vertical green lines show the initial period for implementation of the ICPD Programme of Action (1994-2015). For regions that had achieved the target life expectancy at birth of 75 years by 2015, blue bars indicate when that happened. For other regions, red bars indicate when life expectancy at birth is expected to reach 75 years according to the latest projections by the United Nations, as published in World Population Prospects 2019. Regions are ordered according to the year when they achieved, or are expected to achieve, a life expectancy at birth of 75 years.

\* For sub-Saharan Africa, the patterned red bar extends until the year when life expectancy at birth is expected to reach 70 years, the ICPD target for countries with high levels of mortality in 1994, while the solid red bar indicates when life expectancy at birth for the region is projected to reach 75 years.

### 1. Distribution of world population by life expectancy at birth

As a result of the global mortality decline, the proportion of the world's population living in countries with higher levels of life expectancy at birth has increased significantly, while the proportion living in countries with lower levels of life expectancy has declined steeply since 1950 (figure II.3). In the early 1950s, nearly a quarter of the world's population lived in countries with very high levels of mortality, with life expectancy at birth below 40 years; by the late 1970s, this share had fallen to less than one per cent. Similarly, the proportion of the world's population that lived in countries with a life expectancy below 60 years – “high-mortality countries” according to the terminology of the ICPD Programme of Action – declined from 72 per cent in the early 1950s to 4 per cent in the late 2010s. In the early 1950s, levels of life expectancy at birth above 70 years were quite rare; by the late 2010s, however, 63 per cent of the global population lived in countries with a life expectancy at birth of 70 years or higher. In 1995, shortly after ICPD, Japan became the first country to achieve a life expectancy at birth of 80 years. By the late 2010s, the share of the world's population living in countries with such high levels of life expectancy had reached 10 per cent.

**Figure II.3. Distribution of the world's population by level of life expectancy at birth in a person's country of residence, from 1950-1955 to 2015-2020**



Source: United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.

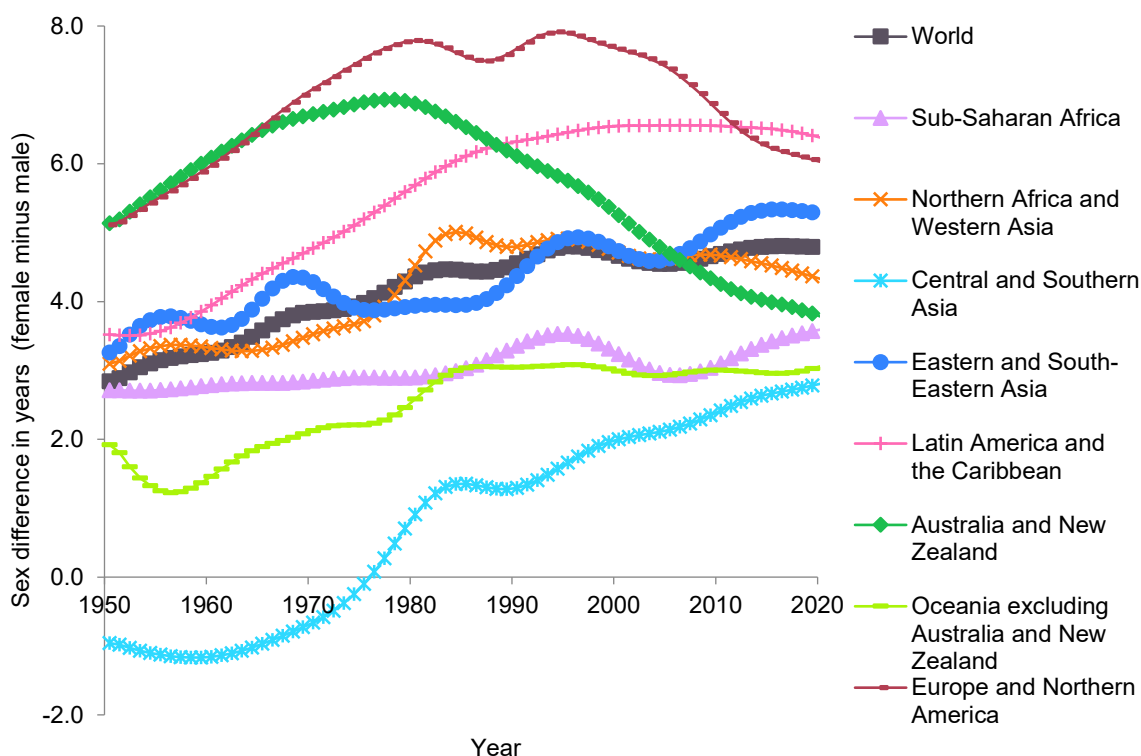
## 2. *Sex differences in life expectancy at birth*

At the global level, women live longer than men on average. A female survival advantage exists in virtually all regions and countries (figure II. 4). The sex difference in life expectancy at birth for the world increased from 3.1 years in the 1950s to 4.8 years in the 1990s and has remained around this level ever since. In Eastern and South-Eastern Asia and in Western Asia and Northern Africa, the gap between male and female levels of life expectancy at birth has followed closely the global average. Latin America and the Caribbean, where this gap increased until the early 1990s before levelling off at about 6.5 years, is currently the region with the largest sex differential in life expectancy. The sex differential has also increased in sub-Saharan Africa, in Oceania excluding Australia and New Zealand, and, especially, in Central and Southern Asia. In all three regions, however, the gap between male and female life expectancy was lower in 2019 than the world average. Central and Southern Asia is the only region where female life expectancy was lower than male life expectancy in the past. This female disadvantage in survival disappeared in the mid-1970, and in 2019, the female advantage stood at 2.8 years, the lowest value among the regions considered here. In sub-Saharan Africa, the rise in the sex differential of life expectancy at birth was interrupted in the late 1990s due to the disproportionate impact of the HIV/AIDS epidemic on female mortality in that region, which had its maximum effect on mortality rates in the mid-2000s.

Today, relatively large sex differentials are observed in the low-mortality regions of Australia and New Zealand, and Europe and Northern America. In both regions, the sex differential in the early 1950s was about five years higher than the global average in 2019. It then rose to a peak of around 7-8 years, after which it started to fall. This decline began when life expectancy at birth reached approximately 73 years. In Australia and New Zealand, the decline started around 1980 and was quite rapid; the current differential of 3.8 years is well below the global average. In Europe and Northern America, the decline started in the late 1990s; the later start was attributable largely to much larger-than-average sex differences and delayed reductions in mortality that characterized the Eastern European region in this period. The sex differential in this region remains quite high, exceeding 6 years in 2019. Such large sex differences in life expectancy are a relatively recent phenomenon (United Nations, 1988). Prior to the mortality decline of the industrial era, sex differences in life expectancy at birth were in a range of around 1-2 years. In the early phases of the historical mortality decline, the rising prevalence of smoking, especially among men, became a major factor contributing to an increase in the sex differential in life expectancy. Years later, the decline in sex differential in high-income countries, which started in the late 1990s, has been attributed in part to an increase in smoking-related mortality among women (Preston, Gleijeses and Wilmoth, 2010).

In the Cairo agreement of 1994, Governments called for reducing disparities within countries and regions. Over the first two decades of implementation, the gap in life expectancy between men and women narrowed by about 2 years in Australia and New Zealand and in Europe and Northern America. In Australia and New Zealand, however, the decline had started well before the 1994 conference. In Western Asia and Northern Africa, there has also been a reduction in mortality differences between men and women, albeit of a smaller magnitude, around a half year. By contrast, the gap has increased in Central and Southern Asia by about 1.2 years, and in Eastern and South-Eastern Asia by 0.4 years. In all other regions, the sex difference in life expectancy at birth remained virtually unchanged over this period.

Figure II.4. Sex differences in life expectancy at birth, world and by region, 1950-2020



Source: United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.

## C. MORTALITY AMONG CHILDREN

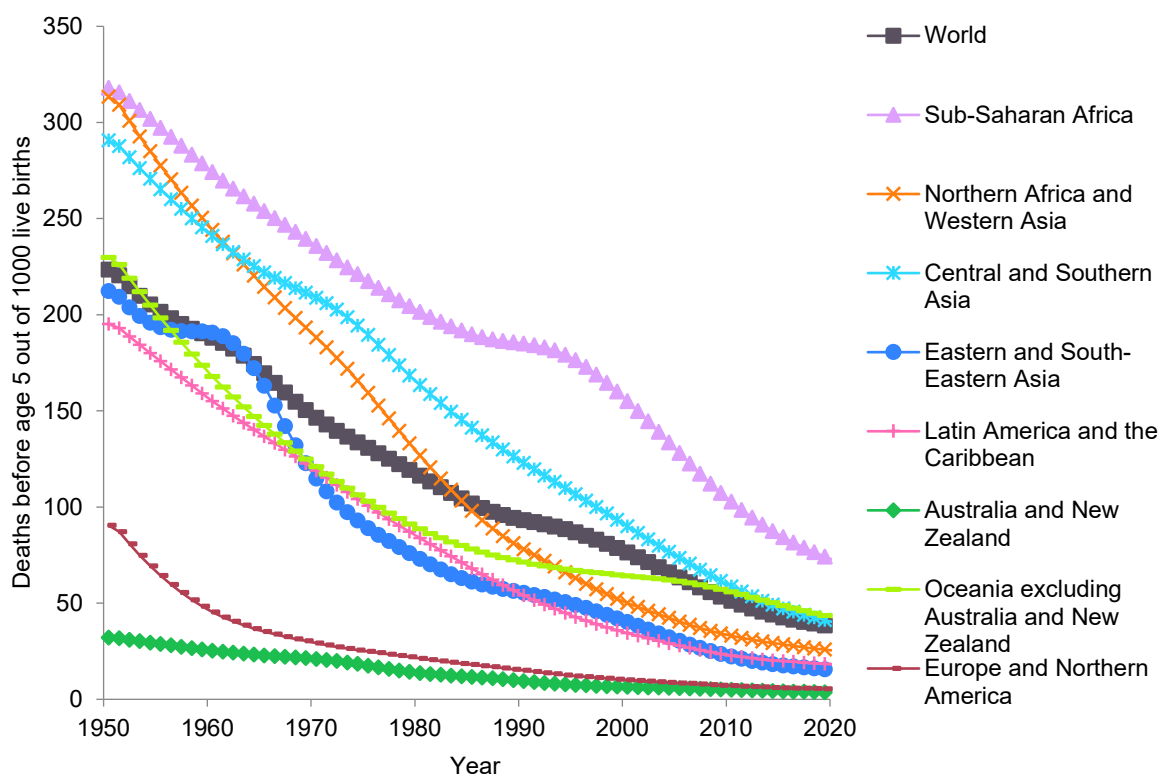
### 1. Under-five mortality

Globally, remarkable progress has been made in reducing under-five mortality since the 1950s. The under-five mortality rate fell from 223 deaths per 1,000 live births in 1950 to 38 per 1,000 in 2019 – a reduction of 83 per cent (figure II.5). Whereas one in four children died before the fifth birthday in 1950, only one in 26 children died before age 5 in 2019. The largest absolute reduction in under-five mortality took place in Western Asia and Northern Africa, dropping from 313 deaths per 1,000 live births in 1950 to 26 per 1,000 in 2019, a relative reduction of 90 per cent. Central and Southern Asia and sub-Saharan Africa recorded the second largest absolute reduction in child mortality, which fell by more than 200 deaths per 1,000 live births between 1950 and 2019. Over the same period, reductions in child mortality of over 90 per cent were recorded in Australia and New Zealand, Eastern and South-Eastern Asia, Europe and Northern America, and Latin America and the Caribbean.

While progress in reducing under-five mortality was substantial and far-reaching in recent decades, gaps between regions remain and, in some cases, have increased in relative terms. The region with the lowest mortality in 2019 was Australia and New Zealand, with an under-five mortality rate of 4 deaths per 1,000 live births. Under-five mortality was the highest in sub-Saharan Africa (74 per 1,000), followed by Oceania excluding Australia and New Zealand (44 per 1,000). Thus, a child born in sub-Saharan Africa in

2019 was nearly twice as likely to die before the fifth birthday as a child born in Oceania excluding Australia and New Zealand, and 20 times as likely compared to a child born in Australia and New Zealand (figure II.6). According to *World Population Prospects 2019*, the under-five mortality rate in sub-Saharan Africa will reach a level of 40 per 1,000 only around the middle of the century, or in about 30 years. At the end of the present century, it is expected that the under-five mortality rate in sub-Saharan Africa will remain about five times as high as the lowest regional level observed today.

Figure II.5. Under-five mortality rate, world and by region, 1950-2020



Source: United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.

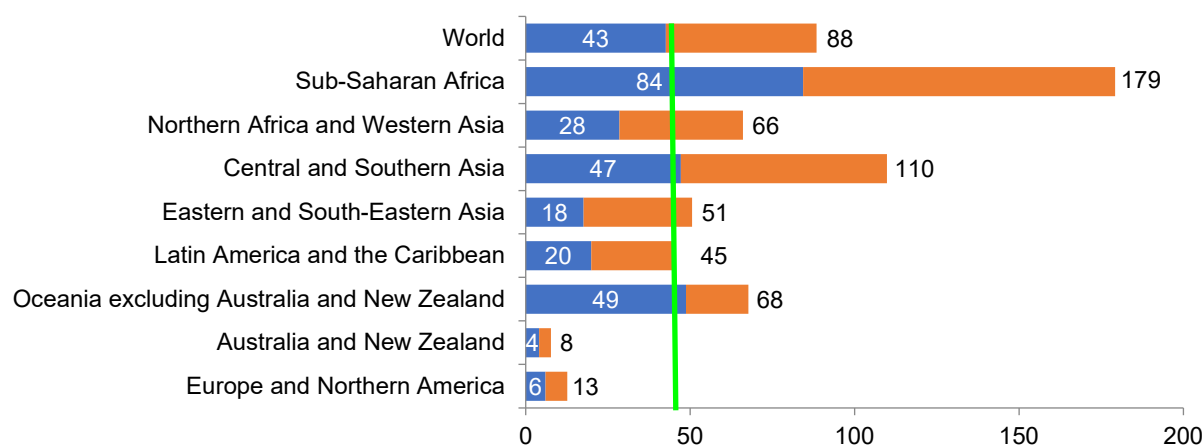
Note: The under-five mortality rate equals the probability of dying between birth and a child's fifth birthday; the indicator is typically expressed per 1,000 live births.

The under-five mortality rate equals the probability of dying before a child's fifth birthday. Major declines in this indicator had already been achieved before the convening of the Cairo conference in 1994 — globally, three quarters of the reduction that took place between 1950 and 2019 had been achieved by 1994. In regions other than sub-Saharan Africa, the proportion of the reduction in under-five mortality that occurred before 1994 was even greater (84 per cent). In 1994, the global under-five mortality rate stood at 88 deaths per 1,000 live births. Australia and New Zealand had the lowest level, at 8 deaths per 1,000 live births, while Sub-Saharan Africa had the highest level, at 179 deaths per 1,000 live births — more than double the global average and 23 times the level recorded in Australia and New Zealand. The decline in child mortality in sub-Saharan Africa stagnated in the late 1980s and early 1990s due in large part to the HIV/AIDS epidemic.

During the first two decades after the Cairo conference in 1994, the world as a whole achieved the ICPD target of 45 deaths per 1,000 live births, as the under-five mortality rate declined from 88 deaths per

1,000 live births in 1994 to 43 per 1,000 in 2015 (figure II.6). In Western Asia and Northern Africa, and in Eastern and South-Eastern Asia, the level of under-five mortality has fallen below the target established in 1994. Sub-Saharan Africa, which had by far the highest level of under-five mortality in 2015 among the regions considered here, is the only region that failed to reach the ICPD target by a wide margin, despite experiencing the largest reduction of child mortality in any region since 1994. In 2015, under-five mortality in Central and Southern Asia and in Oceania excluding Australia and New Zealand was still slightly higher than the ICPD target. For other regions, the target on child mortality had already been met by 1994.

**Figure II.6. Under-five mortality rate, world and by region, 1994 and 2015, with comparison to the ICPD target**



*Source:* United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.

*Note:* Full bars (blue and orange combined) indicate levels of under-five mortality in 1994, while blue bars mark levels of the indicator in 2015. Thus, orange bars depict reductions in under-five mortality from 1994 to 2015. The vertical green line shows the target level for child mortality in 2015 that was established by the ICPD in 1994 (45 deaths per 1,000 live births).

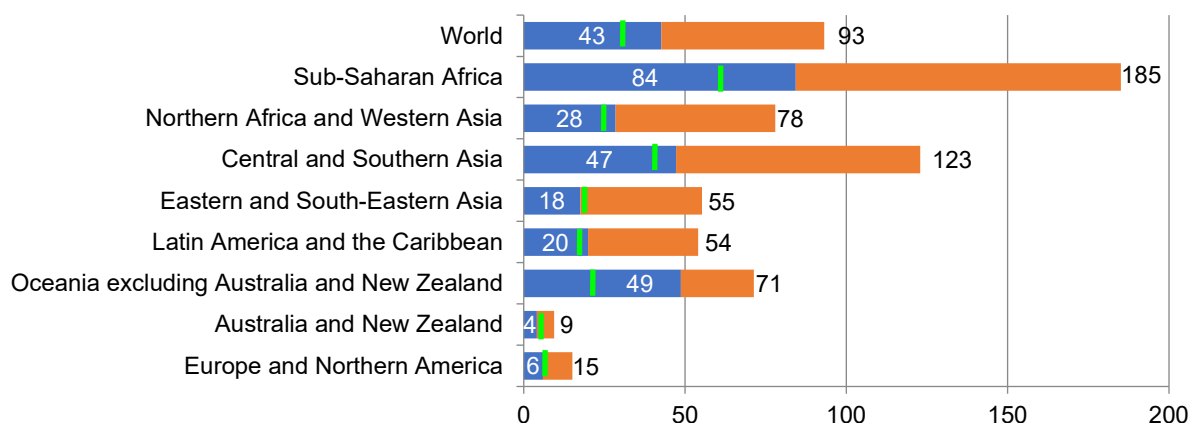
The inclusion of the child mortality indicator in the MDGs emphasized its importance as a proxy for human health and development. The MDGs set ambitious targets, which were applicable only to countries of the less developed regions. For example, under-five mortality in developing countries was to be reduced by two thirds between 1990 and 2015. The relative nature of this MDG target meant that each country would have its own numerical target, rather than a common target shared across countries and regions. Globally, a two-thirds reduction implied that under-five mortality should decline from 93 deaths per 1,000 live births in 1990 to 31 per 1,000 in 2015. The world missed this target, reaching a level of 43 deaths per 1,000 live births in 2015. Despite substantial progress, the MDG target on child mortality was missed by all developing regions except Eastern and South-Eastern Asia, where under-five mortality declined from 55 deaths per 1,000 live births in 1990 to 18 per 1,000 in 2015 (figure II.7).

Global efforts to reduce under-five mortality were renewed in 2015 with the inclusion of a target on child mortality in the SDGs. The new target was set at 25 deaths per 1,000 live births by 2030. According to *World Population Prospects 2019*, among regions with under-five mortality still higher than 25 deaths per 1,000 live births in 2019, only Western Asia and Northern Africa is expected to achieve the SDG target before 2030. In Central and Southern Asia, and in Oceania excluding Australia and New Zealand, the level of 25 deaths per 1,000 live births is expected to be achieved around 2040, and in sub-Saharan Africa, around 2075. The pessimistic outlook for sub-Saharan Africa results partly from an assumption that improvements



in under-five mortality will slow down in the coming decades, following the typical pattern observed in countries with earlier mortality declines. If the rate of decline in under-five mortality in sub-Saharan Africa were to stay at its current level of about 3.3 per cent per year, the SDG target would be reached by 2050.

**Figure II.7. Under-five mortality rate, world and by region, 1990 and 2015, with comparison to the MDG target**



Source: United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.

Note: Full bars (blue and orange combined) indicate levels of under-five mortality in 1990, while blue bars mark levels of the indicator in 2015. Thus, orange bars depict reductions in under-five mortality from 1990 to 2015. Vertical green lines show the MDG target level for under-five mortality in 2015, equal to one third of the 1990 value.

**TABLE II.2. UNDER-FIVE MORTALITY RATE, WORLD AND BY REGION, 1950, 1994 AND 2015**

Region	Under-five mortality rate (deaths per 1,000 live births)			Annual rate of reduction (per cent)	
	1950	1994	2015	1950-1994	1994-2015
<b>World</b>	<b>223</b>	<b>88</b>	<b>43</b>	<b>2.1</b>	<b>3.5</b>
Sub-Saharan Africa	318	179	84	1.3	3.6
Northern Africa and Western Asia	313	66	28	3.5	4.0
Central and Southern Asia	291	110	47	2.2	4.0
Eastern and South-Eastern Asia	212	51	18	3.3	5.0
Latin America and the Caribbean	195	45	20	3.3	3.9
Oceania excluding Australia and New Zealand	230	68	49	2.8	1.6
Australia and New Zealand	32	8	4	3.2	3.0
Europe and Northern America	90	13	6	4.5	3.6

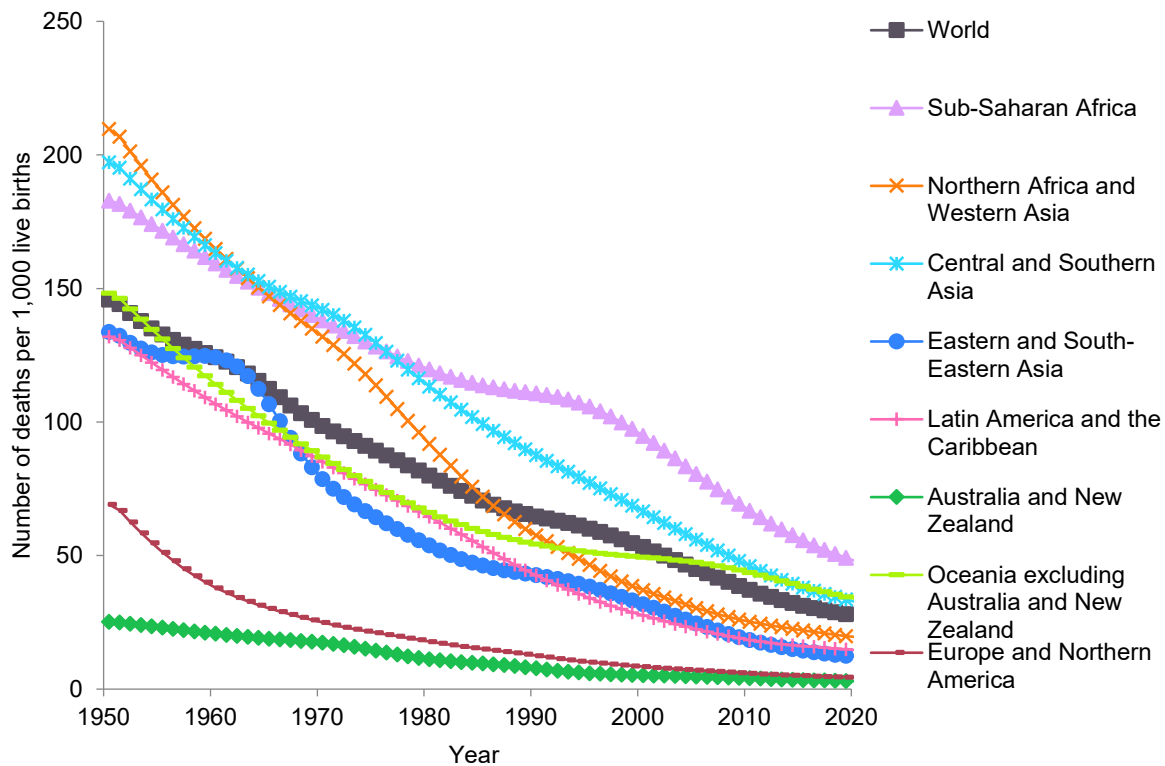
Source: United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.

## 2. Infant mortality

The infant mortality rate, which equals the number of deaths in the first year of life per 1,000 live births, is another widely used indicator of population health. Since most deaths below age 5 occur in the first year of life, the relative levels and changes in infant mortality amongst the regions were, on the whole, very

similar to those for under-five mortality (figure II.8). Remarkable progress has been made in reducing infant mortality globally and in every region since the 1950s. The infant mortality rate for the world as a whole fell from 146 deaths per 1,000 live births in 1950 to 28 per 1,000 in 2019, a reduction of around 80 per cent. However, reducing mortality among infants has proven more difficult than reducing under-five mortality as a whole. Consequently, the share of infant deaths in all deaths of children under age 5 has increased over time.

Figure II.8. Infant mortality rate, world and by region, 1950-2019



Source: United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.

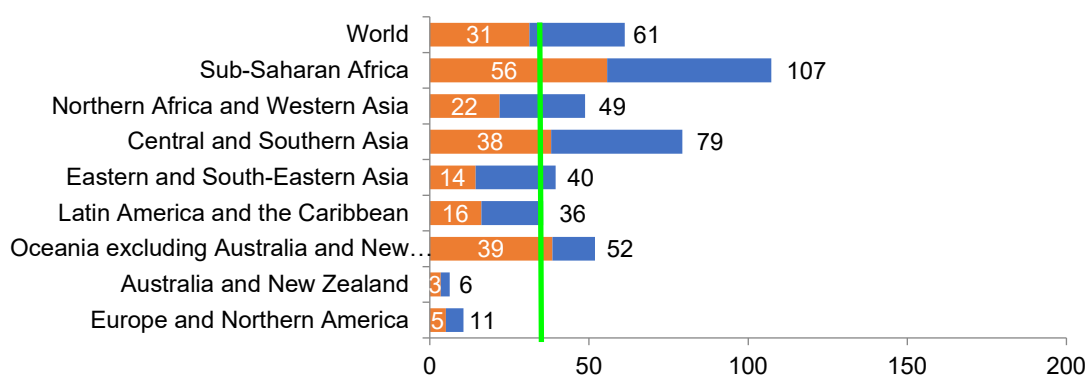
Note: The infant mortality rate equals the probability of dying between birth and a child's first birthday; the indicator is typically expressed per 1,000 live births.

The Cairo conference in 1994 established a target for 2015 of 35 infant deaths per 1,000 live births. Similar to the target on under-five mortality, the world as a whole achieved this target by 2015 (figure II.9). Some regions, including Western Asia and Northern Africa, Eastern and South-Eastern Asia, and Latin America and the Caribbean, were successful in reaching the target by 2015, and two other regions, Oceania excluding Australia and New Zealand, and Central and Southern Asia, reached the desired level a few years later. In short, sub-Saharan Africa was the only region where infant mortality remained well above the target in 2015, despite the halving of the infant mortality in this region during the two decades following the 1994 conference. In Australia and New Zealand and in Europe and Northern America, the infant mortality rate was already well below 35 per 1,000 in 1994, and it declined further over the next 25 years.

Neither the MDGs nor the SDGs included a specific target for the infant mortality rate. However, the SDGs include a target of reducing the neonatal mortality rate by 2030 to no more than 12 deaths in the first

four weeks of life per 1,000 live births. Further progress in reducing the level of infant mortality will depend to a large extent whether the main causes of neonatal deaths — such as pre-term births, intrapartum complications and neonatal infections — can be adequately addressed. Substantial reductions in neonatal mortality will be required in sub-Saharan Africa, in Oceania excluding Australia and New Zealand, in Central and Southern Asia, and in Western Asia and Northern Africa in order to reach the SDG target by 2030.

**Figure II.9. Infant mortality rate, world and by region, 1994 and 2015, with comparison to the ICPD target**



Source: United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.

Note: Full bars (orange and blue combined) indicate levels of infant mortality in 1994, while orange bars mark levels of the indicator in 2015. Thus, blue bars depict reductions in under-five mortality from 1994 to 2015. The vertical green line shows the target level for infant mortality in 2015 that was established by the ICPD in 1994 (35 deaths per 1000 live births).

#### D. ADULT MORTALITY IN THE WORKING AGES AND AMONG OLDER PERSONS

##### 1. Mortality between ages 15 and 60

Mortality levels in early and middle adulthood (roughly, the working age range) is commonly summarized by the number of deaths at ages 15-59 (inclusive) divided by the number of persons who reach age 15 years; it is typically expressed as the number of deaths per 1,000 survivors to age 15. The measure is commonly referred to as the adult mortality rate, or adult mortality for short. It measures mortality conditions between the 15<sup>th</sup> and 60<sup>th</sup> birthdays. None of the global development frameworks considered in this report include a specific target for reducing adult mortality.

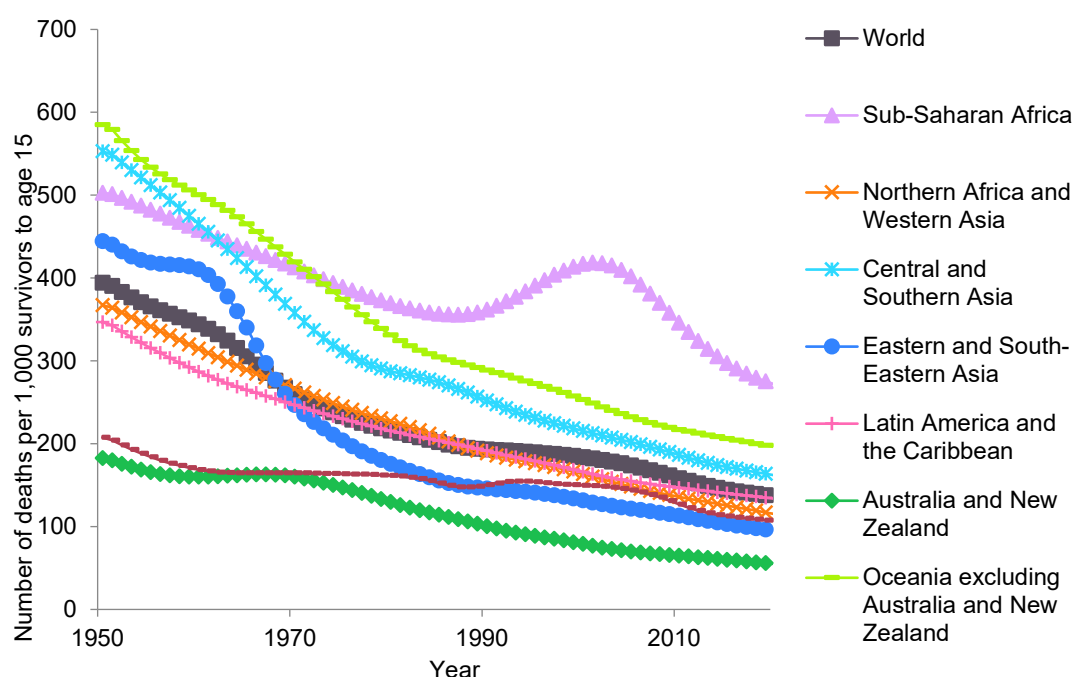
Globally, adult mortality between ages 15 and 60 declined from 394 per 1,000 in 1950 to 190 per 1,000 in 1994, and further to 138 per 1,000 in 2019 (figure II.10). These improvements were the slowest in the early 1990s as a result of adverse developments in sub-Saharan Africa and Eastern Europe. The crisis in adult mortality that was unfolding in sub-Saharan Africa was especially severe, reflecting the impact of the HIV/AIDS epidemic. At the height of the epidemic in the early 2000s, the probability of dying between ages 15 and 60 in sub-Saharan Africa reached a level of about 420 per 1,000, wiping out three decades of progress made in reducing adult mortality in the region. Mortality in the working age range in sub-Saharan Africa started to decline again only in the late 2000s, at an accelerated pace.

During the 1990s and early 2000s, social and economic disruptions associated with the breakup of the Soviet Union led to increasing levels of adult mortality in many countries of Eastern Europe and the former

Soviet Union, leading to the stagnant or rising trend in adult mortality observed for Europe and Northern America as a whole (figure II.10). Unfavourable trends in adult mortality for this region had started in the late 1960s and continued until the mid-2000s, with the exception of a temporary reversal in the late 1980s thanks to an anti-alcohol campaign during the final years of the Soviet Union.

Between 1994 and 2019, mortality between ages 15 and 60 declined, on average, by 30 per cent, leading to record-low levels across the regions. The region with the lowest adult mortality in 2019 was Australia and New Zealand, with a probability of dying between ages 15 and 60 of 56 per 1,000. In Eastern and South-Eastern Asia, Europe and Northern America, and Western Asia and Northern Africa, adult mortality was also below the world's average and ranged from 97 to 117 per 1,000. Sub-Saharan Africa had the highest level in 2019 (275 per 1,000), followed by Oceania excluding Australia and New Zealand (198 per 1,000) and Central and Southern Asia (164 per 1,000) — all of them above the world average. In 2019, the adult mortality rate in sub-Saharan Africa was five times higher than in Australia and New Zealand, the region with the lowest level. By the end of the 21st century, adult mortality in sub-Saharan Africa is projected to decline to about 114 per 1,000, which would still be double the current level in Australia and New Zealand.

Figure II.10. Probability of dying between ages 15 and 60, world and by region, 1950-2020



Source: United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.

Note: The probability of dying between ages 15 and 60 equals the number of deaths between ages 15 and 59 (inclusive) divided by the number of persons who survive to their fifteenth birthday.

Substantial sex differences exist in mortality at ages 15-59 (table II.3). In 2019, at the global level, adult mortality was about 50 per cent higher for men than for women. Relatively high sex ratios of adult mortality were observed in Europe and Northern America and in Latin America and the Caribbean, where the probability of dying between ages 15 and 60 was about double for men compared to women. Sub-Saharan Africa had the lowest sex ratio of adult mortality in 2019 among the regions considered here; in that region,

the chance of dying between ages 15 and 60 was only 20 per cent higher for men than for women. However, this region was characterized by exceptionally high levels of adult mortality in 2019, with a male probability of dying at ages 15-59 above 300 per 1,000, indicating that around 30 per cent of young men who celebrate their 15<sup>th</sup> birthdays will not survive until their 60<sup>th</sup> birthdays unless there are further substantial reductions of death rates in this age range.

TABLE II.3. PROBABILITY OF DYING BETWEEN AGES 15 AND 60, WORLD AND BY REGION, 2019

Region	Probability of dying between ages 15 and 60 (Number of deaths at ages 15-59 per 1,000 survivors to age 15)			
	Both sexes	Male	Female	Ratio (male to female)
<b>World</b>	<b>138</b>	<b>165</b>	<b>109</b>	<b>1.5</b>
Sub-Saharan Africa	275	306	245	1.2
Northern Africa and Western Asia	117	140	92	1.5
Central and Southern Asia	164	189	136	1.4
Eastern and South-Eastern Asia	97	119	73	1.6
Latin America and the Caribbean	135	177	93	1.9
Oceania excluding Australia and New Zealand	198	228	166	1.4
Australia and New Zealand	56	69	42	1.6
Europe and Northern America	108	144	70	2.1

Source: United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.

## 2. Life expectancy at age 60

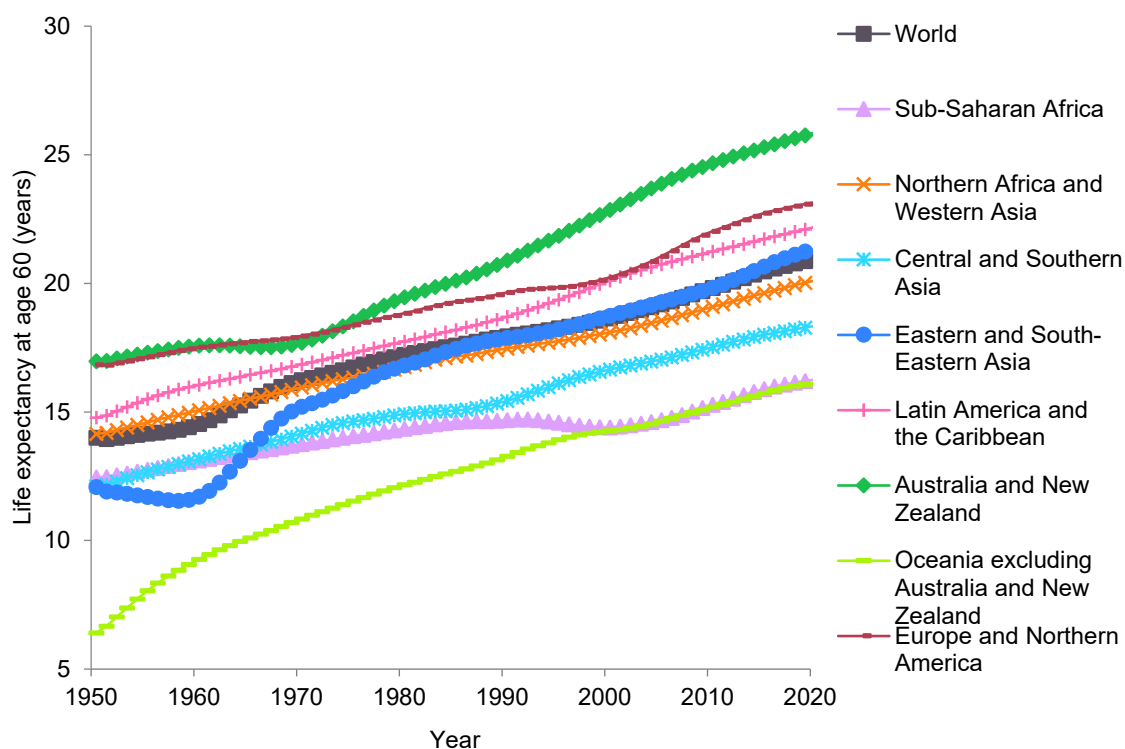
Though not as impressive as gains in life expectancy at birth, significant improvements have been made in reducing mortality at older ages as well. Globally, life expectancy at age 60 gained nearly 7 years between 1950 and 2019, rising from 14 to 20.9 (figure II.11). A steady increase in life expectancy at age 60 has been registered in all regions over these seven decades, except for temporary reversals in Eastern and South-Eastern Asia in the 1950s, Australia and New Zealand in the mid-1960s, and sub-Saharan Africa in the late 1990s. Between 1950 and 1970, remaining life expectancy at age 60 in Australia and New Zealand was quite close to the level observed in Europe and Northern America, about 17 to 18 years for both sexes combined. Increases in survival at older ages in Australia and New Zealand accelerated in the late 1970s, and by 2019, the expectation of life at age 60 in Australia and New Zealand had become almost three years higher (25.8 years) than in Europe and Northern America as a whole (23.1 years).

Eastern and South-Eastern Asia, Central and Southern Asia, and sub-Saharan Africa also witnessed diverging trends. In mid-twentieth century, life expectancy at age 60 was about 12 years in all three regions. By 2019, life expectancy at age 60 had reached 21.2 years in Eastern and South-Eastern Asia, one of the fastest improvements in survival at older ages among all regions (9.2 years). During the same time period, life expectancy at age 60 in sub-Saharan Africa rose to 16.2 years.

Levels and trends in life expectancy at age 60 in Northern Africa and Western Asia and in Latin America and the Caribbean have been comparable to the world average. In both regions, life expectancy at age 60 reached more than 20 years in 2019. Unlike life expectancy at birth, disparities in survival at older

ages have increased over time. In 2019, the difference between the highest- and lowest-mortality regions was nearly 10 years, twice the difference observed in the early 1950s (5 years).<sup>26</sup>

**Figure II.11. Life expectancy at age 60, world and by region, 1950-2020**



Source: United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.

None of the global development frameworks reviewed in this report include a target for mortality levels at older ages. Unlike the trend in life expectancy at birth, the pace of increase in life expectancy at age 60 accelerated after the Cairo conference in 1994. The region of Australia and New Zealand has seen the most rapid rise of life expectancy at age 60 over this period (1.6 years per decade), while Europe and Northern America experienced the second-fastest increase (1.3 years per decade) (table II.4). Oceania excluding Australia and New Zealand is the only region where the pace of increase in life expectancy at age 60 slowed down after 1994 (0.9 years per decade) compared to the period from 1950 to 1994 (1.7 years per decade).

<sup>26</sup> Oceania excluding Australia and New Zealand were excluded from the analysis due to unreliable data in the 1950s.

TABLE II.4. LIFE EXPECTANCY AT AGE 60, WORLD AND BY REGION, 1950, 1994 AND 2019

Region	Life expectancy at age 60 (years)			Total increase in life expectancy at age 60 (years)			Average increase per decade in life expectancy at age 60 (years)		
	1950	1994	2019	1950 to 1994	1994 to 2019	1950 to 2019	1950-1994	1994-2019	1950-2019
	<b>World</b>	<b>14.0</b>	<b>18.2</b>	<b>20.9</b>	<b>4.2</b>	<b>2.7</b>	<b>6.9</b>	<b>1.0</b>	<b>1.1</b>
Sub-Saharan Africa	12.5	14.6	16.2	2.2	1.6	3.8	0.5	0.6	0.5
Northern Africa and Western Asia	14.2	17.7	20.0	3.5	2.3	5.9	0.8	0.9	0.9
Central and Southern Asia	12.1	16.0	18.3	3.8	2.3	6.2	0.9	0.9	0.9
Eastern and South-Eastern Asia	12.1	18.1	21.2	6.1	3.1	9.2	1.4	1.2	1.3
Latin America and the Caribbean	14.8	19.2	22.1	4.4	2.9	7.3	1.0	1.2	1.1
Oceania excluding Australia and New Zealand	6.4	13.8	16.1	7.4	2.3	9.7	1.7	0.9	1.4
Australia and New Zealand	17.0	21.7	25.8	4.7	4.1	8.8	1.1	1.6	1.3
Europe and Northern America	16.8	19.8	23.1	3.0	3.3	6.2	0.7	1.3	0.9

Source: United Nations Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.

## E. SUMMARY

This chapter has reviewed mortality levels and trends since 1950, with special attention to the period since the Cairo conference in 1994. During the latter period, the world has gained 7.7 years of life expectancy at birth. Nevertheless, the world as a whole has fallen far short of the survival targets established in 1994 and is not expected to reach them for another two decades. Four regions — Europe and Northern America, Australia and New Zealand, Eastern and South-Eastern Asia, and Latin America and the Caribbean — had reached the chosen targets by 2015 or shortly thereafter. The targets are not expected to be reached in sub-Saharan Africa until the end of the present century.

The pace of increase in life expectancy at birth decelerated after 1994, both globally and regionally, with the exception of sub-Saharan Africa. Disparities in survival between regions have been greatly reduced over the past few decades, with particularly rapid improvements taking place during the two decades following the Cairo conference in 1994. Yet significant gaps persist across regions — the difference in life expectancy at birth between the lowest-mortality region, Australia and New Zealand, and the highest-mortality region, sub-Saharan Africa, stood at 22.2 years in 2019.

Efforts to reduce under-five and infant mortality since 1994 have been more successful, building on the momentum recorded in previous decades. With the exception of sub-Saharan Africa, the targets established in the Cairo agreement for under-five and infant mortality had been achieved by 2015 or shortly thereafter.

Efforts to reduce child mortality received further impetus in 2015 with the inclusion of a target in the Sustainable Development Goals aiming to reduce the under-five mortality rate to no more than 25 deaths per 1,000 live births by 2030. Achieving this target will require an accelerated pace of change. According to *World Population Prospects 2019*, the trend may fall short of the target globally and in some regions, including Central and Southern Asia, Oceania excluding Australia and New Zealand, and sub-Saharan Africa.

This page is intentionally left blank.



### III. CONCLUSIONS AND POLICY IMPLICATIONS

Since the adoption of the Programme of Action at the International Conference on Population and Development (ICPD), held in Cairo in 1994, considerable progress has been made in reducing child and maternal mortality, extending the life span and promoting healthier lives by reducing the incidence, duration and severity of major diseases. Governments should plan for the opportunities and challenges associated with longer lifespans, which will affect the size and age structure of future generations, with major implications for sustainable development.

A newborn today is expected to live almost 73 years on average, about eight years longer than in 1994. Still, nearly 10 of those years, on average, will be lived in a state of diminished health, as suggested by the global estimate of healthy life expectancy of 63.3 years in 2016 (WHO, 2018). Furthermore, progress achieved in recent decades in health status and survival has been uneven both between and within regions. Importantly, some countries and regions are still lagging behind in reaching the health-related objectives agreed in Cairo in 1994, or are not expected to reach the health-related SDGs without urgent action to accelerate the pace of change. Improvements in health status, nutrition, sanitation and access to safe water must be sustained to attain the relevant goals and objectives of the Programme of Action and the corresponding Goals and targets of the 2030 Agenda for Sustainable Development, adopted by the General Assembly in 2015.

#### A. REDUCING MATERNAL AND CHILD MORTALITY

Most maternal deaths are preventable. Improving health-care services to address the needs of women and newborns across the continuum of care around the time of birth remains critical for safeguarding the lives of both mothers and children. The maternal mortality ratio was estimated to be 211 maternal deaths per 100,000 live births in 2017, 23 per cent higher than the global goal implied by the Programme of Action, which proposed halving the ratio observed in 2000, estimated at 342 per 100,000 (WHO, 2019b), by 2015. Two thirds of all maternal deaths now occur in sub-Saharan Africa, where the maternal mortality ratio was estimated to be 542 deaths per 100,000 live births in 2017. Major efforts are needed to bring the maternal mortality ratio under 70 deaths per 100,000 live births by 2030, as prescribed by the target 3.1 of the SDGs.

Maternal health and newborn health are closely linked. According to *World Population Prospects 2019*, almost four million children died in their first year of life in 2019, including 1.8 million in sub-Saharan Africa. Survival rates among infants, especially newborns, have improved more slowly than those among all children under age 5. While in 1990, 40 per cent of the deaths of children under the age 5 occurred in the first 28 days of life, by 2018 this share had increased to 47 per cent (UN-IGME, 2019). It is especially important that all births be attended by skilled health professionals, as timely management and treatment of complications of pregnancy can make the difference between life and death for both the mother and her baby. Globally, skilled birth attendance increased from 67.2 per cent of live births in 2010 to 79.4 per cent in 2017, with coverage in sub-Saharan Africa still low at 57.8 per cent (United Nations, 2019b). In addition, the provision of care in the weeks after childbirth plays a key role in ending preventable maternal and child deaths (WHO, 2014). Current efforts will need to be scaled up and intensified in order to achieve the accelerated pace of change required to reach the targets on maternal, under-five and neonatal mortality by 2030.

## B. ADDRESSING PREMATURE MORTALITY AND MORBIDITY FROM NON-COMMUNICABLE DISEASES

Globally, non-communicable diseases (NCDs) such as cardiovascular disease, chronic respiratory disease, diabetes and cancer take the lives of 41 million people every year, equivalent to 71 per cent of all deaths. Fighting this category of ailments is particularly challenging for countries where communicable diseases persist as a major cause of death. By 2030, non-communicable diseases are projected to become the most common category of causes of death in Africa (WHO, 2013b). In low- and middle-income countries, close to 50 per cent of deaths in this category occur before the age of 70. Efforts to reduce mortality rates from non-communicable disease across the adult age range must be focused on reducing the prevalence of the key behavioural risk factors, such as alcohol and tobacco use, an unhealthy diet and lack of physical activity. To tackle the growing burden caused by non-communicable diseases, countries should consider implementing cost-effective medical interventions focused on early detection and treatment, such as the 16 “best buy” policy options and recommendations included in WHO’s *Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020*, as updated in 2017 (WHO, 2017a). Target 3.4 of the Sustainable Development Goals addresses the increasing challenge of disease burdens from non-communicable diseases. In order to guide the efforts to achieve this target, Governments adopted the *Montevideo Roadmap 2018-2030 on NCDs as a Sustainable Development Priority* (WHO, 2017b), which recognizes that such ailments are one of the major challenges for development.

Nutrition — including undernutrition as well as overweight and obesity — warrants greater attention. Unhealthy diets fail to address chronic undernutrition and micronutrient deficiencies, while contributing to an increased prevalence of overweight and obesity, and to an increased incidence of diet-related non-communicable diseases. For example, the number of undernourished people in sub-Saharan Africa rose from 181 million in 2010 to almost 237 million in 2017 (FAO and ECA, 2018; WHO, 2019, 2013a). Urgent prevention and treatment policies targeting vulnerable populations are needed to end all forms of malnutrition and promote the consumption of clean water and safe and nutritious foods throughout the life course. Priority action is needed as well to strengthen health systems facing serious challenges, such as low coverage, under-resourcing and workforce shortage.

## C. CONTINUING FOCUS ON THE HIV/AIDS EPIDEMIC

Although the HIV/AIDS epidemic continues to be a major public health concern, HIV-related mortality among adults appears to have reached a peak over the past decade in most countries that have been highly affected by the epidemic, owing mostly to the increasing availability of antiretroviral treatments. Nevertheless, in countries where HIV prevalence has been high, the impact of the epidemic in terms of morbidity, mortality and slower population growth continues to be evident (United Nations, 2019c). In 2018, 23.3 million people were receiving treatment, representing about 62 per cent of those who needed it (UNAIDS, 2019b). Continuing efforts are required in the area of HIV prevention, in particular for youth between 15 and 24 years of age, who comprised 30 per cent of all new infections worldwide in 2018.

To improve the delivery of HIV services and broader health care to achieve the health-related SDGs, the AIDS response should be coordinated with other efforts to strengthen health systems and ensure universal health coverage. Successful strategies include ensuring widespread access to condoms; providing comprehensive sexuality education coupled with the promotion of safe sexual practices; and integrating HIV counselling and testing into sexual and reproductive health-care services, so that HIV risk can inform the screening and treatment of other sexually transmitted infections and decisions about contraceptive use, partner screening and referral for antiretroviral therapy.

D. IMPROVING THE EVIDENCE BASE FOR POLICY FORMULATION

National statistical systems in many countries require strengthening to ensure regular and timely production and dissemination of accurate and disaggregated mortality data by cause of death, for use by Governments and other stakeholders in formulating and implementing health policies, tracking implementation and measuring impact at the national level, and monitoring progress toward the achievement of global development goals at the national, regional and international levels. Special attention should be given to civil registration and vital statistics systems, and to the collection of information on deaths by age, sex and cause.

Governments of countries with incomplete or deficient civil registration systems should develop and implement strategies to improve coverage and reporting accuracy and to foster collaboration with health facilities to improve the completeness and accuracy of reported causes of death. Field inquiries, such as censuses and demographic and health surveys, should be supported as well, since they generate comparable and consistent data on numbers of births and deaths and on population size by age and sex. Health and demographic surveillance system sites are a complementary source of data, particularly useful for ascertaining mortality patterns by age or cause of death. Countries should seek guidance from internationally agreed principles and recommendations on standardization of concepts and procedures to ensure data comparability (United Nations, 2016).

This page is intentionally left blank.

## REFERENCES

- Arriaga, Eduardo (1984). Measuring and explaining the change in life expectancies. *Demography*, vol. 21, No.1, pp. 83-96.
- Economist (January 22, 2009). Mass Murder and the Market.
- Food and Agriculture Organization of the United Nations (FAO) and Economic Commission for Africa (ECA) (2018). *Regional Overview of Food Security and Nutrition. Addressing the threat from climate variability and extremes for food security and nutrition*. Available from: [www.fao.org/3/CA2710EN/ca2710en.pdf](http://www.fao.org/3/CA2710EN/ca2710en.pdf)
- Glei, D.A., Meslé, F., and Vallin, J. (2010). Diverging trends in life expectancy at age 50: A look at causes of death. In National Research Council, *International Differences in Mortality at Older Ages: Dimensions and Sources* (pp. 17–67). E.M. Crimmins, S.H. Preston, and B. Cohen (Eds.), Panel on Understanding Divergent Trends in Longevity in High-Income Countries. Committee on Population. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
- Janssen, F., A. Kunst and J. Mackenbach 2007. Variations in the pace of old-age mortality decline in seven European countries, 1950–1999: the role of smoking and other factors earlier in life. *European Journal of Population*, vol. 23, No. 2, pp.171-188.
- Joint United Nations Programme on HIV/AIDS (UNAIDS) (2019a). *HIV and AIDS - Basic facts*. Available at <https://www.unaids.org/en/frequently-asked-questions-about-hiv-and-aids>
- \_\_\_\_\_ (2019b). *UNAIDS data 2019*. Available at: [www.unaids.org/en/resources/documents/2019/2019-UNAIDS-data](http://www.unaids.org/en/resources/documents/2019/2019-UNAIDS-data).
- Mackenbach, J., and Garssen, J. (2010). Renewed progress in life expectancy: The case of the Netherlands. In National Research Council, *International Differences in Mortality at Older Ages: Dimensions and Sources* (pp. 369–384). E.M. Crimmins, S.H. Preston, and B. Cohen (Eds.), Panel on Understanding Divergent Trends in Longevity in High-Income Countries. Committee on Population. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
- National Research Council (2011). *Explaining Divergent Levels of Longevity in High-Income Countries*. E.M. Crimmins, S.H. Preston, and B. Cohen, Eds. Panel on Understanding Divergent Trends in Longevity in High- Income Countries. Committee on Population, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
- Nemtsov, A.V. (1995). *Alkohol'naya Situatsiya V Rossii*. Moscow. Fond: *Zdorov'ye I Okruzhayushchaya Sreda*. Oganov, R.G., R.A. Khalitov, and G.S. Zhukovskiy, eds.
- Olshansky, S.J. and A.B. Ault (1986). The fourth stage of the epidemiologic transition: the age of delayed degenerative diseases. *The Milbank Quarterly*, vol. 64, No. 3, pp. 355-391.
- Palmisano, Lucia and Stefano Vella (2011). A brief history of antiretroviral therapy of HIV infection: success and challenges. *Annali dell'Istituto Superiore di Sanita*. vol. 47, No. 1, pp. 44-48.
- Preston, S., D. Gleib and J. Wilmoth (2010). Contribution of smoking to international differences in life expectancy. In National Research Council, *International Differences in Mortality at Older Ages: Dimensions and Sources* (pp. 105–131). E.M. Crimmins, S.H. Preston, and B. Cohen (Eds.), Panel on Understanding Divergent Trends in Longevity in High-Income Countries. Committee on Population. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

- Rau, R., E. Soroko, D. Jasilionis and J. Vaupel (2008). Continued reductions in mortality at advanced ages. *Population and Development Review*, vol. 34, No. 4, pp. 747–768.
- Staetsky, L. (2009). Diverging trends in female old-age mortality: a reappraisal. *Demographic Research*, vol. 21, No. 30, pp. 885–914.
- Treisman, Daniel. (2010). Death and Prices: The Political Economy of Russia’s Alcohol Crisis. *Economics of Transition*, vol. 18, Issue 2, pp. 281–331. Available at SSRN: <https://ssrn.com/abstract=1558041> or <http://dx.doi.org/10.1111/j.1468-0351.2009.00382.x>
- UNDP (1990). Human Development Report 1990, New York: Oxford University Press. Available at: <http://hdr.undp.org/en/reports/global/hdr1990>
- \_\_\_\_\_ (2018). *Human Development Indices and Indicators 2018 Statistical Update*. Available at: [http://hdr.undp.org/sites/default/files/2018\\_human\\_development\\_statistical\\_update.pdf](http://hdr.undp.org/sites/default/files/2018_human_development_statistical_update.pdf)
- United Nations (1988). Sex differentials in life expectancy and mortality in developed countries: an analysis by age groups and causes of death from recent and historical data. *Population Bulletin*, No. 25-1988.
- \_\_\_\_\_ (1994). Report of the International Conference on Population and Development. United Nations: A/CONF.171/13/Rev.1.
- \_\_\_\_\_ (2014). Compendium of Recommendations on Population and Development: Commission on Population and Development, 1994–2014 (Volume I) (United Nations publication, Sales No. E.14.XIII.12). Available from: <https://population.un.org>
- \_\_\_\_\_ (2016). Strengthening the demographic evidence base for the post-2015 development agenda. Report of the Secretary-General. Available at <https://www.un.org/en/development/desa/population/documents/cpd-report/index.asp>
- \_\_\_\_\_ (2019a). *World Population Prospects 2019*. Available at <https://population.un.org/wpp/>.
- \_\_\_\_\_ (2019b). *Monitoring of population programmes, focusing on the review and appraisal of the Programme of Action of the International Conference on Population and Development and its contribution to the follow-up on and review of the 2030 Agenda for Sustainable Development*. United Nations Economic and Social Council, Commission on Population and Development. E/CN.9/2019/3.
- \_\_\_\_\_ (2019c). *World Population Prospects 2019: Highlights*. (ST/ESA/SER.A/423).
- UN-IGME (2019). *UN IGME Estimates 2019*. Available at : <https://childmortality.org/data/World>
- World Bank (2002). *Transition—The first ten years: analysis and lessons for Eastern Europe and the former Soviet Union*. Washington, D.C.: The World Bank. Available at: <http://documents.worldbank.org/curated/en/319481468770972868/Transition-The-first-ten-years-analysis-and-lessons-for-Eastern-Europe-and-the-former-Soviet-Union>
- World Health Organization (2011). *Global status report on noncommunicable diseases 2010*. Geneva.
- \_\_\_\_\_ (2013a). *Disease and injury regional mortality estimates, 2000–2011*. Available at: [www.who.int/healthinfo/global\\_burden\\_disease/estimates\\_regional/en/index.html](http://www.who.int/healthinfo/global_burden_disease/estimates_regional/en/index.html)
- \_\_\_\_\_ (2013b). *Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020*. WHO Press: Geneva, Switzerland.
- \_\_\_\_\_ (2014). *WHO Recommendations on Postnatal Care of the Mother and Newborn 2013*. Available from: [www.who.int/maternal\\_child\\_adolescent/documents/postnatal-care-recommendations/en/](http://www.who.int/maternal_child_adolescent/documents/postnatal-care-recommendations/en/)

*World Mortality 2019*

- \_\_\_\_\_ (2017a). *Tackling NCDs “Best buys” and other recommended interventions for the prevention and control of noncommunicable diseases*. Available from [www.who.int/ncds/management/best-buys/en/](http://www.who.int/ncds/management/best-buys/en/)
- \_\_\_\_\_ (2017b). *Montevideo Roadmap 2018-2030 on NCDs as a Sustainable Development Priority*. WHO Global Conference on Noncommunicable Diseases, Pursuing policy coherence to achieve SDG target 3.4 on NCDs, Montevideo, 18-20 October 2017. Available from: [www.who.int](http://www.who.int)
- \_\_\_\_\_ (2018). *Healthy life expectancy (HALE)*, Global Health Observatory data repository. Available from <http://apps.who.int/gho/data/view.main.HALEXREGv>
- \_\_\_\_\_ (2019). *Strategic Plan to Reduce the Double Burden of Malnutrition in the African Region: 2019-2025*. AFR/RC69/7 adopted in August 2019 by resolution AFR/RC69/WP1/Rev1.

ISBN 978-92-1-148332-1



9 789211 483321