



Agency for Strategic planning
and reforms of the
Republic of Kazakhstan
Bureau of National statistics

Quality report

*Life expectancy at birth of the population of the Republic
of Kazakhstan*

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S.1 Contact details

S.1.1 Organization

Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan

S.1.2 Structural subdivision

Department of Social and Demographic Statistics

S.1.3 Name of contact person

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S.1.3.1 Name of the head of the responsible structural unit

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S.1.5 Postal address of the contact person

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S.2 Introduction-Relevance

Life expectancy of the population is one of the main indicators of mortality, which is the number of years that one person will live out of the generation born in the year for which the calculation was made. Also, this indicator is used to determine the aging process of the population.

Data on life expectancy are taken into account in the ratings of the countries of the world, when calculating human capital, the Global Competitiveness Index of the World Economic Forum, government programs such as "Densaulyk for 2016-2020" and in the memorandums of local executive bodies of the Republic of Kazakhstan.

S.3 Updating metadata

S.3.1 Latest confirmation of updated metadata

04/23/2019

S.3.2 Last Placement of Metadata

04/23/2019

S.3.3 Latest metadata update

04/23/2019

S.4 Presentation of statistical information

S.4.1 Data description

The life table indicators represent a system of age-ordered and interconnected series of numbers, organized as a description of the process of decreasing with age under the influence of mortality of a certain theoretical generation with a fixed initial size. Mortality tables are constructed to assess the "Life expectancy" indicator.

There are complete and short life tables. In complete mortality tables, age takes all integer values, the step of age change is 1 year from 0 to 100 years. In the concise life tables, the age changes in increments of 5, with the allocation of the first five years of life according to the weather: 0, 1, 2, 3, 4, 5-9, 10-14, ... 80-84, 85 years and older or 0, 1-4, 5-9, 10-14, ... 80-84, 85 and older.

As the initial statistical data for calculating mortality tables, age-specific mortality rates are used, which are calculated as the ratio of the number of deaths at a given age during a calendar year to the average annual number of persons of a given age:

$$m(x) = M(x) / P(x),$$

Where:

$m(x)$ - mortality rate at age x years;

$M(x)$ - the number of deaths at age x years;

$P(x)$ - the average population aged x years.

$$q(x) = (n * m(x)) / (1 + (n-a(x)) * m(x)),$$

Where:

$q(x)$ - probability of death at the age interval from x to $x + n$ years;

n - age interval;

$m(x)$ - mortality rate at age x years;

$a(x)$ - the mean number of person-years lived in the age range from x to $x + n$ s.

Each q_x represents the probability that a person who has reached the exact age of x years will not live to be $x + n$ years old. Based on the probabilities obtained, all other indicators of the mortality table are calculated.

The likelihood of surviving to the next age, p_x , is the proportion of people living to the end of a given age interval from among those surviving to its beginning.

$$p(x) = 1 - q(x),$$

The initial number of the generation (root of the table) l_0 is taken as 100,000.

$$l(x+n) = l(x) * p(x) = l(x) - d(x),$$

$$d(x) = l(x) - l(x+n) = l(x) * (1-p(x)) = l(x) * q(x),$$

Where:

l_x - number of surviving to age x of precise initial cohort;

$p(x)$ - probability of survival to the next age x ;

$d(x)$ - the number of deaths in the age range from x to $x+n$.

$$L(x) = 1/2 * (l(x) + l(x+n)),$$

Where:

$L(x)$ - the number of living ages ranging from x to $x+n$;

$$T(x) = \sum (x_w) L(x),$$

Where:

T_x - number of person-years of life at ages x and older.

Life expectancy at birth represents the number of years that one person will live on average from a generation born, provided that, throughout that generation's life, the mortality rate at each age remains the same as in the year for which the indicator is calculated.

$$e(x) = T(x) / l(x),$$

Life expectancy at the age of x years represents the number of years that will have to live by reaching the given age, while maintaining the current mortality rate at each subsequent age.

S.4.2 Classification system

KATO - Classifier of Administrative Territorial Objects;

SGVL - Directory of age groupings

SP - Gender Handbook

S.4.3 Sectoral coverage

Average annual population by age, number of deaths at each age, administrative and territorial changes.

S.4.4 Statistical concepts and definitions

Life expectancy data are estimates based on mortality data for the reporting year. Information on deaths is obtained on the basis of the annual statistical development of data contained in the second copies of acts of civil status on death, compiled by the bodies carrying out state registration of acts of civil states. Death registration is carried out at the place of death and place of permanent residence on the basis of a medical death certificate, which is attached to the second copy of the death certificate. The statistical development of mortality data is carried out according to the permanent place of residence of the deceased.

Life expectancy at birth is the number of years that, on average, one person from a generation born will live, provided that throughout the life of this generation, the mortality rate at each age remains the same as in the year for which the indicator is calculated.

Mortality is a generational extinction process, which consists of a multitude of single deaths occurring at different ages in a given population;

Cause of Death - Illness, condition or injury that led to or contributed to death, as well as the circumstances of the accident or act of violence that caused the fatal injury.

S.4.5 Statistical object

Permanent population of the Republic of Kazakhstan

S.4.6 General population (principle of selection of survey units)

Sample surveys are not carried out

S.4.7 Territorial coverage

Republic of Kazakhstan (14 regions, 2 cities of republican significance and the capital)

S.4.8 Time coverage

from the year 2000

S.4.9 Base period

Corresponds to last year

S.5 Unit of measurement

Number of years

S.6 Reporting period

year

S.7 Legal basis

S.7.1 Legal basis

1. Law of the Republic of Kazakhstan dated March 19, 2010 No. 257-IV "On state statistics".
2. Rules for the provision of primary statistical data by respondents, approved by order of the Chairman of the Agency of the Republic of Kazakhstan on statistics dated July 9, 2010 No. 173.
3. Rules for the submission of administrative data by administrative sources on a gratuitous basis, approved by the order of the Acting Chairman of the Agency of the Republic of Kazakhstan on statistics dated July 14, 2010 No. 183.
4. The plan of statistical work, approved in accordance with the established legislative procedure of the Republic of Kazakhstan by order of the Minister of National Economy of the Republic of Kazakhstan.
5. Schedule for the dissemination of official statistical information, approved by the order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan.
6. Rules for the provision of statistical information on a gratuitous basis that is not provided for by the schedule for the dissemination of official statistical information and developed on the basis of primary statistical data submitted by respondents in accordance with the schedule for submitting primary statistical data by respondents, approved by order of the Chairman of the Agency of the Republic of Kazakhstan on Statistics of May 20, 2010 No. 113.
7. Rules for the provision and use for scientific purposes of databases in a de-identified form, approved by order of the Chairman of the Agency of the Republic of Kazakhstan on statistics dated July 2, 2010 No. 168. Registered with the Ministry of Justice of the Republic of Kazakhstan on August 13, 2010 No. 6388.
8. Order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan "On approval of the Methodology for calculating mortality rates" dated September 21, 2018 No. 1. Registered with the Ministry of Justice of the Republic of Kazakhstan on October 16, 2018 No. 17555.

S.8 Privacy and data protection

S.8.1 Privacy Policy

1. Article 8 of the Law of the Republic of Kazakhstan dated March 19, 2010 "On State Statistics", in accordance with which a guarantee of confidentiality and protection of the submitted data by respondents is ensured.

2. Article 28 of the Entrepreneurial Code of the Republic of Kazakhstan dated October 29, 2015 ensures the protection of information constituting a commercial secret.

3. Information security policy (hereinafter referred to as the Policy) approved by the Order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan dated October 31, 2016 No. 252 defines the goals, objectives, guidelines and practical techniques in the field of ensuring information security of the Committee. The main goal of the Policy is to ensure the availability of official statistical information, confidentiality of information stored and processed on the computer equipment of the Committee under the conditions of its integrity and authenticity.

S.8.2 Privacy - data handling

Rules for the provision and use for scientific purposes of databases in a de-identified form, approved by the order of the Chairman of the Agency of the Republic of Kazakhstan on statistics dated July 2, 2010 No. 168. Registered with the Ministry of Justice of the Republic of Kazakhstan on August 13, 2010 No. 6388.

S.9 Publication Policy

S.9.1 Publication Calendar

clause 1, clause 2 of Article 26 of the Law of the Republic of Kazakhstan "On State Statistics" dated March 19, 2010 No. 257. The schedule for the dissemination of official statistical information is posted on the website of the Bureau of national statistics www.stat.gov.kz in the section "Home" // "Basic documents".

S.9.2 Access to the Graph

Clause 1, clause 2 of Article 26 of the Law of the Republic of Kazakhstan "On State Statistics" dated March 19, 2010 No. 257;

The schedule for the dissemination of official statistical information is posted on the website of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan www.stat.gov.kz in the section "Home" // "Basic documents".

S.9.3 User access

Official statistical information is subject to dissemination in accordance with the Schedule for the dissemination of official statistical information in the volumes stipulated by the Plan of statistical work.

State statistics bodies provide users with equal rights to simultaneous access to high-quality official statistical information and statistical methodology by posting them on the Internet resources of statistics bodies (website Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan www.stat.gov.kz).

Website Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan stat.gov.kz - Official statistics - by industry - Demographic statistics - Statistics - Express information - Life expectancy at birth of the population of the Republic of Kazakhstan by region.

S.10 Propagation frequency

year

S.11 Dissemination format, accessibility and clarity

S.11.1 News publications

Press releases are not published

S.11.2 Publications

The publication is posted on the website Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan stat.gov.kz (periodicity - annual) Official statistics:

- By industry - Demographic statistics - Statistics - Express information - Life expectancy at birth of the population of the Republic of Kazakhstan by region;
- Publications - Statistical compilations - Demographic yearbook of Kazakhstan;
- Publications - Statistical compilations - Children of Kazakhstan.

S.11.3 Databases in on-line mode

Information and analytical system "Taldau" - Demographic statistics - Life expectancy at birth of the population of the Republic of Kazakhstan

S.11.3.1 AC1. Data tables-consultation

Not implemented.

S.11.4 Access to microdata

1. Rules for the provision and use for scientific purposes of databases in a de-identified form, approved by order of the Chairman of the Agency of the Republic of Kazakhstan on statistics dated July 2, 2010 No. 168. Registered with the Ministry of Justice of the Republic of Kazakhstan on August 13, 2010 No. 6388.

S.11.5 Other

S.11.5.1 AC2. Metadata consultation

Not implemented

S.12 Availability of Documentation

S.12.1 Methodology documentation

Website Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan stat.gov.kz - Official statistics - By industry - Demographic statistics - Methodology: - Methodology for calculating mortality rates, approved by order of the Chairman of the Bureau of national planning of the Agency for strategic planning and reforms of the Republic of Kazakhstan dated September 21, 2018 No. 1.

Registered with the Ministry of Justice of the Republic of Kazakhstan on October 16, 2018 No. 17555.

S.12.2 Quality documentation

1. Policy in the field of quality, approved by the order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan dated April 23, 2015 No. 67.

2. Objectives in the field of quality Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan, Objectives in the field of quality of the relevant structural unit.

3. Documented information of the quality management system: Quality manual; Documented procedures; Instructions; Process maps.

4. Typical methodology for describing the process of production of statistical information by state bodies, approved by the Order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan dated March 30, 2015 No. 53;

5. Methodology for assessing the quality of official statistical information, approved by the Order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan dated May 23, 2018 No. 63

S.13 Quality management

S.13.1 Quality assurance

The quality and reliability of demographic statistics is supported by generally accepted procedures:

- compliance with the basic principles of primary accounting;
- at the stages of primary data processing, all control schemes (format-logical, arithmetic) have been developed and implemented.

S.13.2 Quality control

Annual completion of the questionnaires of the United Nations, the Statistical Committee of the Commonwealth of Independent States, the Eurasian Economic Commission on the indicator "Life expectancy" of the questionnaire on socio-demographic characteristics.

S.14 Relevance

S.14.1 Needs

Information users: International organizations Statistical Committee of the Commonwealth of Independent States, European Economic Commission, Ministry of Health, and other state bodies of the Republic of Kazakhstan, individuals and legal entities.

S.14.2 User satisfaction

The Committee annually conducts a survey of users of official statistical information according to the questionnaire Q-002 "Survey of users".

S.14.3 Completeness / R1. Data completeness-share not applicable

S.15 Accuracy and reliability (to be completed according to the type of observation)

S.15.1 Overall accuracy

Not applicable

S.15.2 Sample errors - indicators / A1.

Not applicable

S.15.3 Non-sampling error

Not applicable

S.15.3.1 Coverage error

Not applicable

S.15.3.1.1 A2. Overcoverage-share

Not applicable

S.15.3.1.2 A3. Common units-ratio

Not applicable

S.15.3.3 No response errors

S.15.3.3.1 A4. Absence unit-share

Not applicable

S.15.3.3.2 A5. No response-share clause

Not applicable

S.16 Timeliness and punctuality

S.16.1 Timeliness

S.16.1.1 TP1 Waiting period - first results

The time taken to process the first results, from the deadline for submission by administrative sources to the first publication, is 50 days. The results of 2018 were first published in the express information of April 23, 2019. Published data are final. The release dates were approved and published in the Statistical Work Plan and the Schedule for the Dissemination of Official Statistical Information.

S.16.1.2 TP2.Waiting Period - Latest Results

The first results are final.

S.16.2 Punctuality

S.16.2.1 Punctuality / TP3

Express information is published in accordance with the Statistical Work Plan approved in accordance with the procedure established by the legislation of the Republic of Kazakhstan and the Schedule for the dissemination of official statistical information, approved by the order of the Chairman of the Bureau of national statistics.

The publication deadline is postponed to the next business day if the publication deadline falls on weekends or holidays.

S.17 Comparability

S.17.1 Geographic comparability

Within the territory of the Republic of Kazakhstan

S.17.1.1 Asymmetry in mirror flow statistics-coefficient / CC1

Absent

S.17.2 Length of comparable time series / CC2

The dynamic range of life expectancy at birth by gender has been comparable and continuous since 2000. These time series are placed in the Taldau Information and Analytical System - Demographic statistics - Life expectancy at birth of the population of the Republic of Kazakhstan.

S.18 Consistency

S.18.1 Consistency, external, cross

The methodology for calculating mortality rates approved by the order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan dated September 21, 2018 "1 complies with the United Nations Principles and Recommendations for Vital Statistics" (2015).

This indicator is used in their calculations by the Ministry of Health, the Institute for Economic Research, insurance and other research organizations.

S.18.2 Internal consistency

Not

S.19 Load

Local executive bodies of cities, districts (including districts in cities of regional and republican significance) that carry out state registration of birth certificates (hereinafter - registering bodies), no later than the 6th day following the reporting month, send second copies to the city (district) statistics departments records of death certificates according to the accompanying list of registration of death certificates, which indicates the number of submitted acts. Inventories are drawn up in two copies, one of which remains with the registering authorities, the second is sent to the territorial statistical offices. District and city departments of statistics, in turn, check the correctness of filling out the acts, in case of errors or incompleteness of information, they are returned for replenishment. Then the death certificates and medical certificates of death are transferred to the regional departments of statistics, where the data is encoded according to normative and reference information, entered into an electronic database, and checked for logical and arithmetic control. After that, the formed database of death is transferred to the Information and Computing Center of the Committee, where logical and arithmetic control is performed at the republican level, editing, processing of data and release of tables according to the plan of statistical work for the current year. Then the generated tables are transferred to the Committee on Statistics, where the analysis, the approval of the calculation of indicators and the dissemination of information are carried out.

S.20 Revision of data

S.20.2 Revision of data / A6

Data for 2018 has not been revised.

S.21 Processing of statistical data

S.21.1 Input

The source of data on mortality is the administrative data received by the territorial bodies of the Committee from local executive bodies.

S.21.2 Inspection frequency

year

S.21.3 Method (method) of collecting primary statistical data

Records of the death of organs of the civil registry office

S.21.4 Reliability of primary statistics

To check the reliability of primary statistical data, format-logical controls are provided. Data analysis is in progress.

S.21.5 Imputation - share / A7

Not applicable

S.21.6 Correction

Not applicable

S.21.6.1 Seasonal adjustment

Not implemented

S.22 Notes

Continue work on data quality assurance and calculation automation