

# About the Status and Prospects of Gerontology and Geriatrics in the Kyrgyz Republic

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## Abstract

The objective is to assess the state and prospects of development of the gerontological service and to study the level of the demographic situation in the Kyrgyz Republic.

We studied Legislative, regulatory and legal documents and materials from open sources have studied since 1991. Using the example of Bishkek and Nizhne-Serafimovsk social stationary facilities, the state of health was analyzed, and 442 patients examined. Successes in the development of the gerontology: the Kyrgyz Republic became a member of the AgeNet International gerontological network (2005), the law “On Senior Citizens in the Kyrgyz Republic” (2011) was adopted, and an Action Plan to improve the quality of life of older citizens at 2019-2025. A high frequency of comorbidity revealed: 241 (56.4%) of the wards had from 1 to 3 diseases, 185 (43.3%) from 4 to 6 diseases and in 128 (29.9%) of the departments, seven or more diseases registered. The country needs to create a single coordinating body for gerontological and geriatric services, which will be responsible for its work and development.

**Key words:** Gerontology, Geriatrics, Old age, Social stationary institution, Kyrgyz Republic.

## Introduction

Ageing of the population is one of the relevant problems of modern society. At present, negative medical, demographic processes observed, characterized by an increase in the number of people of older age groups in the general population structure of most countries, including Kyrgyzstan<sup>1,2</sup>.

According to the UN, the proportion of older people over the age of 65 exceeded 9%, by 2025 there will be more than 800 million people over 65 years old in the world, which will be about 10% of the population, and by 2050 this percentage can reach 16%<sup>3,4</sup>.

With age, the proportion of acute diseases decreases, and the number of various chronic diseases increases<sup>4</sup>. The risk of situations that require not only the provision of medical, social and rehabilitation assistance but also outside care increases<sup>5</sup>.

For Kyrgyzstan, the increase in the proportion of older people is a new phenomenon. Among the many consequences of this phenomenon, there is a need for various types of medical and social assistance. According to studies of the National Statistical Committee of the Kyrgyz Republic<sup>6</sup>, the older population suffers from multiple severe chronic diseases that occur in conditions of reduced compensatory capabilities of the body. Up to 80% of older people need medical and social assistance, more than 70% of this category have 4-5 chronic diseases of the cardiovascular, nervous, endocrine, hematopoietic, musculoskeletal, respiratory, digestive and others. The incidence of diseases in the older people from 60-74 years is almost two times higher and six

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times in the elderly from  $\geq 75$  years, compared to young people.

The objective is to study the state and prospects of development of the gerontological service in the Kyrgyz Republic present stage, to assess the level of geriatric care provided to the population of the country, as well as to wards of stationary social institutions of the country.

## Materials and Method

We studied legislative, regulatory documents, scientific publications and articles from open media sources on the older people, since 1991.

The object of the study was older people, wards of the Bishkek and Nizhne-Serafimovsk social stationary institutions of a general type for older people and people with disabilities (from now on referred to as SSI). We studied medical records of the wards in institutions; there were 506 of them at the time of the study.

Electrocardiography performed in 370 people, echocardiography in 70 people, ultrasound of internal organs in 347 people and ultrasound bone densitometry in 177 people. The following medical equipment of the I.K. Akhunbaev Kyrgyz State Medical Academy was used to conduct these studies: EK12T-01-R-D electrocardiograph, Mindray DP-50 portable ultrasound scanner, and SONOST-3000 portable bone densitometer. The echocardiographic study was carried out by researchers of the Alpine Medicine Department of the M.M. Mirrakhimov National Center of Cardiology and Internal Medicine of the Ministry of Health of the Kyrgyz Republic on the Philips Cx50.

Statistical processing of the results carried out using the program Statistica for Windows, v. 6.0 Data presented as the arithmetic mean  $\pm$  standard error of the mean ( $M \pm m$ ). The significance of the differences in the frequency values in the observation groups evaluated using the Pearson  $\chi^2$ -criterion, the Student t-test and the Mann – Whitney rank U-test used. The values at  $p < 0.05$  were considered statistically significant.

## Results

About 500 thousand citizens are overworking age or almost every eighth resident of the republic. The number of men over working age (63 years and older) is 4.7%, and the number of women (58 years and older) is 10.8%. The number of women in this age group exceeded the number of men by 2.3 times<sup>7</sup>.

In 2018, life expectancy for men was 67.4 years, for women was 75.6 years. The retirement age of women comes five years earlier (for men at 63 years old, for women at 58 years old).

The solution to the problems and needs of older citizens in the Kyrgyz Republic until 2000 remained without proper attention.

In 2002, the Kyrgyz Republic became a member of the Madrid International Plan of Action on Ageing.

In 2005, at the initiative of 22 organizations involved in ageing in Kyrgyzstan, Kazakhstan and Tajikistan, the International Gerontological Network AgeNet International was created. The goal was to help increase the responsibility of the government and civil society in improving the situation of socially vulnerable older people.

In 2011 the Law of the Kyrgyz Republic dated July 26, 2011 No.133 “On Senior Citizens in the Kyrgyz Republic” was adopted in the country<sup>7</sup>.

In October 2016, the Government of the Kyrgyz Republic decided to form an interagency working group to develop a State national program to improve the quality of life of older people for 2017-2027 years, with the inclusion of six partner organizations of AgeNet International. The recommendations developed by this interagency group formed the basis of the Action Plan to improve the quality of life of senior citizens of the Kyrgyz Republic for 2019-2025, which was approved by the Government Decree No. 442 dated August 30, 2019<sup>8</sup>.

To implement the measures, four priority areas are defined:

1. Equality and non-discrimination;
2. Prevention and promotion of health, increasing the access of senior citizens to quality medical services through improving the health care system and promoting active longevity;
3. Ensuring well-being at all stages of the life cycle of senior citizens;
4. Ensuring the accessibility of senior citizens to state and municipal services by developing the social services market and expanding forms of support, including the private sector.

Geriatrics is a separate medical speciality, the purpose of which is to impact on the physical, mental, functional and social spheres of health and life of the elderly and senile people in acute and chronic diseases during treatment, prevention, rehabilitation and palliative care<sup>9</sup>. The primary health care for the population of the republic provided by 148 medical institutions, 64 family medicine centres, 28 general practice centres, in which 694 groups of family medicine doctors and 1026 Medical- obstetric centres that are part of a system of the Ministry of Health of the Kyrgyz Republic<sup>10</sup>. In the Order of the Ministry of Health of the Kyrgyz Republic No. 387 dated 05/30/2018, the nomenclature of medical and pharmaceutical specialities and the positions of employees with higher medical and pharmaceutical education in healthcare organizations documented the speciality “geriatrics” and the location of “geriatrician”<sup>11</sup>.

There is still no comprehensive training system for geriatric specialists in the country, which should include not only medical personnel at all levels but also social workers. There are no educational programs on geriatrics before and after graduate training. The problems associated with geriatric care: there are no geriatric doctors, no geriatric rooms, no geriatric centres, geriatric medical care is not provided to the elderly, and

the wards of stationary social institutions remain not surveyed. Decisive in this direction is the presence and functioning of a hospital for disabled war veterans in the republic, where, along with invalids of the World War 2 and home front workers, who are very few, the older people catered for. The work of stationary social institutions is one of the priority areas that determine the new policy of our state.

The Law of the Kyrgyz Republic dated December 19, 2001 No. 111 “On the Basics of Social Services for the Population in the Kyrgyz Republic”<sup>12</sup>.

The mandatory minimum system includes stationary and semi-stationary organizations. The first contains social inpatient facilities for senior citizens and persons with disabilities. In total, there are 15 institutions in the Kyrgyz Republic, six of which serve for senior retirement and seniors. From table 1, of the six stationary social institutions of the country, the two largest located in the Chuy region, these are the Nizhne-Serafimovsk and Bishkek SSI with a capacity of 308 people and 205 people, respectively. The remaining four institutions situated in the south of the republic. It has Small capacity, designed for 204 beds.

**Table 1: Social Stationary Institutions (SSI) for the old people and persons with disabilities of the Kyrgyz Republic**

No.	Name of institution	Location (city)	Number of beds	Number of service employees
1	Nizhne-Serafimovsk social stationary institution of the general type for elderly and disabled people	Kant	308	231
2	Bishkek social stationary institution of a general type for the elderly and disabled people	Bishkek	192	76
3	“Boorukerdik” boarding house for the elderly people	Osh	63	36
4	Suzak boarding house for the elderly and disabled people	Jalal-Abad	86	60
5	Suluktinsky boarding house for single citizens	Batken	35	15
6	Toktogul boarding house for the elderly and disabled people	Jalal-Abad	20	16

The Nizhne-Serafimovsk SSI founded in 1936 and in 1978, a new 4-storey building, consisting of 3 residential buildings, during the Soviet Union. Currently, the capacity is 325 beds, located in the village of Nizhnyaya Serafimovka, Chuy region. The Bishkek Social Stationery Institution (SSI) was founded in 1961, by Decree of the Council of Ministers of the Kyrgyz SSR No. 99 dated February 15, 1955. The capacity is 205 beds and 83 living rooms, located in the Bishkek.

In our study, a total of 506 people lived in two institutions, of which 442 (87.4%) people of older age health status examined. The remaining 64 (12.6%) of the wards did not fall into the study; these were young and middle-aged people (up to 60 years) with disabilities. Of the 442 wards, men were 248 (56.1%) people, women were 194 (43.9%) people, their average age was  $76.1 \pm 3.27$  years. SSI wards represented by residents of the Chuy region were 194 (43.8%) people, Bishkek were 149 (33.7%) people and Issyk-Kul region were 52 (11.7%) people. The remaining 47 (10.6%) of the wards were representatives of other areas of the republic. Doctors and nurses represent SSI. An average of 6 staff units per

institution: a general practitioner, a surgeon and four nurses.

During the research, out of 506 medical observation cards, only 135 observation cards were examined and with the results of laboratory and functional tests. In all these cases, the wards studied in connection with emergency conditions and hospitalization in the clinic. The department staff organized visiting consultations and examination with the involvement of super-specialists from the departments of I.K. Akhunbaev Kyrgyz State Medical Academy.

A comparative analysis in table 2 showed that the percentage of diseases detected for some illnesses in the wards of the Bishkek SSI was significantly higher than in the departments of the Nizhne-Serafimovsk SSI. Summarizing the final figures, six classes of diseases, such as cardiovascular, diseases of the musculoskeletal and connective tissue, nervous and digestive systems, respiratory and visual diseases constituted the disorders that found in wards of SSI.

**Table 2: The main diseases in wards of social stationary institutions (SSI) identified in the process of analyzing medical records and examinations**

№	Disease group	Bishkek SSI (n=201)	Nizhne-Serafimovsk SSI (n=241)	Total (n=442)
1.	Diseases of the cardiovascular system	197 (98%)	174 (72,1%)	371 (83,9%)
2.	Diseases of the musculoskeletal system and connective tissue	172 (85,5%)	137 (56,8%)	309 (70%)
3.	Diseases of the nervous system	141 (70,1%)	116 (48,1%)	257 (58,1%)
4.	Diseases of the digestive system	123 (61,2%)	93 (38,5%)	216 (48,8%)
5.	Diseases of the respiratory system	97 (48,2%)	72 (29,8%)	169 (38,2%)
6.	Diseases of the visual organs	91 (45,3%)	69 (28,6%)	160 (36,2%)
7.	Diseases of the genitourinary system	46 (22,8%)	21 (8,7%)	67 (15,1%)
8.	Mental and behavioral disorders	17 (8,4%)	15 (6,2%)	32 (7,2%)
9.	Endocrine diseases	15 (7,5%)	13 (5,4%)	28 (6,3%)
10.	Diseases of the skin and subcutaneous tissue	13 (6,5%)	11 (4,5%)	24 (5,4%)
Note: $p < 0.05$ - the differences are statistically significant compared with the indicators of the Nizhne-Serafimovsk SSI				

A high frequency of comorbidity revealed: 241 (56.4%) of the wards had from 1 to 3 diseases, 185 (43.3%) from 4 to 6 diseases and in 128 (29.9%) of the departments, seven or more diseases registered.

## Discussion

According to the UN age classification<sup>13</sup>, if the share of people aged 65 years and over in the total population is below 4%, then the population of that country is considered young, if, in the range from 4% to 7%, the community is on the threshold of old age, if above 7% aged population. In 2019, 301 thousand (4.7%) of Kyrgyzstani people were at the age of 65. According to the UN prediction, in Kyrgyzstan, this tendency will manifest itself by about 2030 when the proportion of older people aged 65 years and older will approach 7%<sup>14</sup>.

To provide full assistance, a specialist is needed, who knows the theoretical concepts of the functioning of the body over the age of 65.

In our country, the development of geriatric services requires the integration of both medical and non-medical areas. In this case, the primary attention should be paid not only to the fight against ageing but to the prevention and treatment of multiple pathologies, to prevent the pathological and accelerated ageing process of the body. The activities of stationary social institutions in the Kyrgyz Republic can be an excellent example of integration work. But there are also enough issues: institutions are poorly responsive to reforms, and they do not particularly want highly qualified medical intervention.

We can confidently state that the demographic situation in the country today leaves no doubt that caring for people of older age groups is a requirement of the time and a substantial medical and social problem.

## Conclusion

1. For further study of issues related to the ageing of the population and the development of approaches to organizing geriatric care for the people of the republic, it is necessary to create a coordinating body for gerontology and a network of geriatric centres in the country.

2. For the development of the gerontology service, the achievement of health indicators, the quality of life of older people, the development of cooperative scientific research and the improvement of specialized training in geriatrics are necessary.

3. Coordinated actions by the healthcare and social protection systems are needed to provide the older people and senile population of the country with the highly specialized medical and social assistance they need, affect the extension of their active longevity.

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## References

1. Klupt M.A. A Demography of the regions of the Earth. M, SPb., N.-Novgorod, etc.: Peter, 2008.
2. Kanstrim E., Zamaro G., Sjistedt G. et al. Healthy aging profiles, Guidance for producing a local health profiles of older people. WHO, Copenhagen; 2008.
3. European health for all database (HFA-DB) World Health Organization Regional Office for Europe Updated: January. 2013.
4. Pisatakis A. Demistifying the myth of ageing. WHO; 2008.
5. Shabalin V.N. Organization of the work of geriatric services in the conditions of progressive demographic aging of the population of the Russian Federation // Successes of gerontology. 2009; 22 (1): 186-195.
6. Elderly people in the Kyrgyz Republic. National Statistical Committee of the Kyrgyz Republic. Statistical study report. Bishkek; 2017.
7. The Law of the Kyrgyz Republic "On Senior Citizens of the Kyrgyz Republic". Dated July 26, 2011. No. 133.
8. Decree of the Government of the Kyrgyz Republic dated August 30, 2019 No. 442 "On approval of the Plan of measures to improve the quality of life of senior citizens in the Kyrgyz Republic for 2019-2025".
9. Rockwood K. Frailty defined by deficit accumulation and geriatric medicine defined by frailty. Clin. Geriatr.Med. 2011. No27. P. 7-26.
10. Statistical Yearbook of the Kyrgyz Republic. National Statistical Committee of the Kyrgyz Republic. Bishkek; 2019.



11. Order of the Ministry of Health of the Kyrgyz Republic No. 387 dated 05/30/2018 “On approval of the nomenclature of medical and pharmaceutical specialties, the nomenclature of posts and the list of compliance of medical and pharmaceutical specialties with posts in health organizations of the Kyrgyz Republic”.
12. The Law of the Kyrgyz Republic “On the Basics of Social Services for the Population in the Kyrgyz Republic” dated December 19, 2001 No. 111 (As amended by the Laws of the Kyrgyz Republic of April 12, 2003 No. 71, July 22, 2005 No. 111, July 28, 2008 No. 177).
13. United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition.
14. World population aging 1950–2050. New-York: United Nations; 2002.