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Comparison of Healthcare System and Analysis of Healthcare Competitiveness Indicators between Kazakhstan and Korea based on GCI

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Abstract: At present, Kazakhstan's healthcare system is undergoing a number of changes and being reformed to improve the quality and accessibility of healthcare services. In this regard, mandatory social health insurance was introduced in Kazakhstan in 2015. For the introduction of mandatory social health insurance, experience of a number of foreign countries was studied. The history, culture, and mentality of Korea are very close to Kazakhstan; Also, Korea has many years of experience in the formation and development of the health insurance model. Moreover, Korea is far ahead of Kazakhstan in many health indicators. Thus, the study of the health insurance model of Korea will be useful for Kazakhstan, and the use of Korean experience will improve the provision of medical assistance to the population in accordance with international standards.

This paper attempts to perform a *comparative analysis* of the health care systems in Korea and Kazakhstan to understand the differences in health indicators between Kazakhstan and OECD countries. The article also analyzes healthcare competitiveness indicators based on the Global Competitiveness Index (GCI), as well as analysis of statistical indicators. We found that Korean National Health Insurance experience would have many useful lessons for the Kazakhstan's healthcare system.

Keywords: Healthcare system; Global Competitiveness Index (GCI); Healthcare indicators; Mandatory social health insurance

JEL Classifications: H53, H55, I13, I15, I38

1. Introduction

The impact of health on economic development is realized both directly and indirectly through the improvement of social indicators. Thus, the protection of public health is the national priority of the state policy in each country.

The first level document in Kazakhstan, or "Strategy of the Development of the Republic of Kazakhstan until 2050", defined the key principles of the Kazakhstan's social policy, and proclaimed that the health of the nation is the foundation of our successful future [1].

Good health is one of the most important components for a person in the sense that it provides many different opportunities, including expanding access to the education and labor market, increasing labor productivity and welfare level, reducing medical costs, and good social relations and a longer life. Monitoring of the health status of citizens in terms of social security is necessary in order to integrate more firmly the health care of the population into the overall development strategy, thus laying the foundation for the leaders who determine national policies to improve the living conditions and economic well-being of the population [2].

In the message to the people of Kazakhstan "Strategy Kazakhstan 2050: a New Political Course of the State", the President Nazarbayev has set a strategic goal: to become one of the 30 most developed countries in the world. To achieve this goal, it is necessary to overcome the existing development gap between the OECD countries and Kazakhstan in all sectors and spheres of activity, including health care.

In this regard, we will attempt to perform a *comparative analysis* of the health care systems in Korea and Kazakhstan to understand the differences in health indicators between Kazakhstan and OECD countries.

The choice of Korea is not accidental. There are many similarities and differences between Korea and Kazakhstan. Thus, the model of Korea's development can be very useful for Kazakhstan, precisely because they are similar. First, both countries adhere to the eastern culture, whose values are not personal interests, but the needs of society as a whole. Secondly, they have a colonial past of the country. Thirdly, in the struggle for the right to be called 'competitive' since both countries adhere to a policy based on the maintenance of giant companies. In Korea, this is a "plutocracy" and in Kazakhstan, there are "state-owned national companies" in which the government takes a direct part [3].

Korea is among the ten countries of international *medical tourism*. Due to the fact that hospitals and clinics are fully equipped with advanced technologies, and also accredited with quality certificates, Korea is undoubtedly the leader in the field of medical tourism, such as advanced medical equipment, the latest equipment and extensive experience. Now Korea is one of the largest economies in the world. It is noteworthy that Korea manages to combine advanced technologies and its culture, retains its traditions and customs, honors history, and respects the elders.

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[1] See the Message of the President of the Republic of Kazakhstan from "Strategy Kazakhstan 2050: A New Political Course of the State".

[2] Suhrcke, M., M. McKee, L. Rocco, "Investing in health: a key condition for the successful economic development of the countries of Eastern Europe and Central Asia", *European Observatory on Health Systems and Policies*, 2008, p. 275.

[3] Cho, Eun-jeong, "Kazakhstan's application of South Korea's development model: possibilities and limitations", *Alfaraby KazNU Bulletin*, Vol. 62, No. 2, 2013.

2. Characteristics of Health Care System in South Korea

Korea is one of the world's most rapidly industrializing countries, and the quality of Korean people's lives has been increasingly improved in general due to the level of medical technology.

Korea's healthcare system has three arms: the National Health Insurance Program, Medical Aid Program, and Long-term Care Program. All people in Korea are eligible for coverage under the National Health Insurance Program. Before 1977, Korea had only voluntary health insurance. And in 1977, a law that mandated medical insurance was passed by the President Park Chung-Hee [4]. So then, gradually Korea achieved an universal health insurance coverage by 2000.

National Health Insurance Program covers 97% of total population. The insured are divided into 2 groups: employee and self-employed [5]. The other 3% of total population is covered under the Medical Aid Program. This program was established for patients who are unable to pay for health care and covers patients with rare, intractable and chronic diseases as well as children under 18. The Medical Aid Program is funded by the central and local governments.

Thus, the National Health Insurance Program in Korea has three sources of funding: contributions, government subsidies and an extra charge for tobacco products. Employees contribute 5% of their wages. The employee and the employer each pay 50% of this amount. The government provides 14% of the annual planned program budget. And the extra charge for tobacco products is 6% of the total program budget. It should be noted that mandatory insurance covers from 50 to 80% of the cost of treatment, the rest of the amount is paid by the patient themselves [6].

In contrary, in Kazakhstan, health insurance schemes are only being introduced. The law of mandatory social health insurance was adopted on November 16, 2015, according to which sources of financing are: (i) contributions, and (ii) other sources not prohibited by the legislation of the Republic of Kazakhstan [7].

Also, for the last decades Korea has experienced the aging of population. It is the great issue to the authorities, because taking care of elderly people is a burden to the family budget. And also the increase in elderly population leads to increase in medical care expenditures. To solve this problem, Korea's government introduced a Long-term Care Insurance Program. This program covers elderly people over 65 years old, and those who are less than 65 but suffer from an age-related disabling condition, such as Alzheimer's disease, Parkinson's disease, or paralysis due to stroke [8].

Another feature of the Health System of Korea is that all medical institutions including private ones are considered non-profit. And this means that the income received from the provision of medical services is not taxed. This is a very high motivation in providing affordable and quality medical services. All medical institutions are exempt from taxes. In this case, profit can only be used for reinvestment. Therefore, medical institutions spend all their profits on equipping clinics

[4] Jong-Chan Lee. "Health Care Reform in South Korea: Success or Failure?", *American Journal Public Health*, Vol. 93, No. 1, January 2003, pp. 48-51.

[5] Young Joo Song, "The South Korean Health Care System", *Japan Medical Association*, Vol. 52, No. 3, May/June 2009.

[6] Young Joo Song, "The South Korean Health Care System", *Japan Medical Association*, Vol. 52, No. 3, May/June 2009.

[7] See the Law of the Republic of Kazakhstan on Mandatory Social Health Insurance.

[8] Young Joo Song, "The South Korean Health Care System", *Japan Medical Association*, Vol. 52, No. 3, May/June 2009.

with modern expensive equipment for laboratory research and scientific development which are incredibly expensive. Even a very small clinic can be equipped, for example, with surgical robots, as there are possibilities for this. Accordingly, the state determines the prices for all types of medical services. In addition, Koreans are very ambitious and have a highly developed competitive spirit, which creates a favorable competitive environment. Therefore, Korean doctors actively monitor all developments and quickly introduce new technologies in health care.

Nevertheless, at the beginning of introducing health insurance, Korea faced not a few difficulties. There has been a continual political and policy struggle. Some voted for the unification of the medical insurance societies under the national system and others preferred decentralization. The cause was that those for decentralization argued that unification would lead to transferring insurance premiums from industrial employers and employees to self-employed. But those for unification emphasized the importance of the solidarity among all classes of workers.

In Kazakhstan, government wants to achieve solidarity of all members of society. This means that the rich pays for the poor, the healthy for the sick, and the young for the old.

3. Mandatory Social Health Insurance in Kazakhstan

Ministry of Health Care of the Republic of Kazakhstan is in charge of supervision and making policy decisions [9]. In 2015, expenditures on health care in Kazakhstan amounted to 1.5 trillion KZT (6.7 billion in U.S. dollars). This amounts to 3% of GDP. In accordance with the “Program of Health Care Reform and Development” adopted by the government of the Republic of Kazakhstan, a gradual increase in public spending on the healthcare sector is provided. As a whole, 69,772 doctors and 163,937 paramedical personnel and clinical nurses are on medical care in the country. In recent years, the state has undertaken a number of measures aimed at reforming and developing health care.

In the period from 2011 to 2015 in Kazakhstan, the State Program for the Development of Healthcare “Salamatty Kazakhstan” was implemented. Within the framework of this program, the rates of maternal and infant mortality were significantly reduced. The indicators of cardio-logical and cardio-surgical care were also improved.

At present, the State Program “Densaulyk” is being implemented for 2016-2019. Currently, Kazakhstan is going through an important stage in the development of the national healthcare system. From July 1, 2017, mandatory social health insurance begins to work. Mandatory Social Health Insurance (MSHI) guarantees equal access to medical care and pharmaceutical goods from the funds of the Social Health Insurance Fund to all insured citizens of Kazakhstan regardless of gender, age, social status, place of residence and income.

Until this time, the provision of medical services was provided at the expense of state (republican and local) budget funds, voluntary health insurance funds, and loans from international financial institutions for the implementation of international projects.

The state, through the implementation of MSHI, expects the achievement of public solidarity by strengthening its own health and sharing the burden of protecting public health. Also, the implementation of the MSHI will ensure the financial sustainability of the system by creating a system’s resilience to external factors and increasing costs, as well as transparency and fairness of the system. In addition, the efficiency of the system will be improved through ensuring high competitiveness of the system, reaching effective indicators, completeness and quality of services.

[9] Codex of the Republic of Kazakhstan, “About People’s Health and Health Care System”.

Contributions to the MSHI for persons exempted from their payment the state pays from the republican budget. The government will begin to pay contributions from January 1, 2018 in the amount of 4% of the economy average monthly salary, 5% from January 1, 2019, 6% from January 1, 2024, and 7% from January 1, 2025. According to the Law “About Mandatory Social Health Insurance”, there are 15 categories of citizens who are exempted from paying contributions to the Fund.

In turn, the active population, such as employers, employees, individual entrepreneurs, self-employed, etc., will make contributions according to the following Table 1:

Table 1. Level of contributions to the Fund of Mandatory Social Health Insurance by active population

	2017	2018	2019	2020
Employers	2% of wages fund	3% of wages fund	4% of wages fund	5% of wages fund
Employees	-	-	1% of salary	2% of salary
Self-employed	2% of revenue	3% of revenue	5% of revenue	7% of revenue

Source: The Law of the Republic of Kazakhstan on Mandatory Social Health Insurance.

As we see, the volume of health financing in Korea and in Kazakhstan is different. The state contributions to the mandatory social health insurance in Kazakhstan are very low in comparison with Korea: Kazakhstan is 7%, but Korea is 14%. The main burden of expenditure for health care funding in Kazakhstan lies on individual entrepreneurs. For comparison, total expenditure on health in Kazakhstan in 2015 is amounted by 3.6% of GDP, but in Korea 7.2% of GDP [10].

The rights of citizens to receive medical care in the MSHI system and to select the health care organization will be enacted from January 1, 2018.

The Mandatory Social Health Insurance Fund will distribute the money as follows: the part will be sent to pay for services to healthcare entities, that is, to the medical organizations, and the other part will be sent to the National Bank, which will invest money and fully manage the assets.

So, the system of mandatory social health insurance provides 2 packages of medical services. The first package is guaranteed volume of free medical care (GVOFMC). It includes: air-ambulance and emergency care, medical care for socially significant diseases and in emergency cases, preventive vaccinations, outpatient care with outpatient drug provision (until 2020, that is, before the introduction of universal declaration). The second package is MSHI System. It includes the volume of medical services in excess of the guaranteed volume of free medical care, financed by mandatory insurance contributions from the state, employers and employees to the MSHI Fund. It can be received by persons who are members of the MSHI.

Thus, through the introduction of Mandatory Social Health Insurance in Kazakhstan, the government expects to provide citizens with affordable quality medical care, to improve the health of citizens and to increase their life expectancy. After introduction of MSHI, it will be possible to expand outpatient care services and drug provision.

In addition, with the introduction of MSHI, the quality of medical services will be strengthened, and the level of private health care spending will also decline. So, we will get a health care system that can meet the needs of the population.

[10] OECD, *OECD Health Statistics*, www.stats.oecd.org

4. Comparative Analysis of Healthcare Competitiveness Indicators in Kazakhstan and Korea

At the present stage of development of the economy, the country's competitiveness is estimated according to the Global Competitiveness Index (hereinafter GCI). The GCI is a study conducted by the World Economic Forum (hereinafter WEF), which ranks the countries in terms of economic *competitiveness indicators*.

The essence of the methodology for calculating the GCI is a combination of publicly available statistics and the results of a global survey of company executives, leading research institutes and organizations in the countries analyzed in the report. The research has been conducted since 2004 and currently represents the most comprehensive set of competitiveness indicators for different countries of the world.

It is well known that countries with high national competitiveness indicators, as a rule, provide a higher level of well-being of their citizens, respectively, social security. This index helps countries to make decisions in economic policy and develop strategies for further economic development, and to increase the competitiveness of the national economy.

The GCI assesses the level of development of institutions, infrastructure, education, health, innovation, technology, foreign trade, the competitiveness of companies, the labor market, the financial market, the goods and services market, and the macroeconomic situation.

In the rating of the GCI for 2016-2017, Kazakhstan took the 53rd place. The results are shown in Table 2.

Table 2. Global Competitiveness Ratings

Rank	Country	GCI (2016-2017)
1	Switzerland	5.81
2	Singapore	5.72
3	United States	5.70
4	Netherlands	5.57
5	Germany	5.57
6	Sweden	5.53
7	United Kingdom	5.49
8	Japan	5.48
9	Hong Kong SAR	5.48
10	Finland	5.44
26	Korea, Rep.	5.03
53	Kazakhstan	4.41

Source: WEF, *Global Competitiveness Report 2012-2016*. (http://reports.weforum.org/global-competitiveness-index/#topic=methodology)

According to the WEF, the competitiveness of Kazakhstan's national economy in 2016 was at an average level. Thus, by factor *Institutions* (49th place), *Financial market development* (104th place), *Market size* (45th place) and *Innovation* (59th place), Kazakhstan has made significant progress in the last 5 years and has risen in the rating by 17, 11, 10 and 44 positions, respectively. Despite significant improvements, position by factor *Financial market development* is still weak in

Kazakhstan (104th place). Also, weak positions are observed by factors *Health and primary education* (94th place) and *Business sophistication* (97th place), (See the Table 3).

Table 3. Positions of Kazakhstan and Korea in the Global Competitiveness Index 2012-2016

Country and years / Indices for ranking	**Kazakhstan (2012-2016)**						**Korea (2016)**
	2012	2013	2014	2015	2016	Difference between 2012 and 2016	
Global Competitiveness Index (GCI)	51/144	50/148	50/144	42/140	53/138	-2	26/138
Institutions	66	55	57	50	49	+17	63
Infrastructure	67	62	62	58	63	+4	10
Macroeconomic environment	16	23	27	25	69	-53	3
Health and primary education	92	97	96	93	94	-2	29
Higher education and training	58	54	62	60	57	+1	25
Goods market efficiency	71	56	54	49	62	+9	24
Labor market efficiency	19	15	15	18	20	-1	77
Financial market development	115	103	98	91	104	+11	80
Technological readiness	55	57	61	61	56	-1	28
Market size	55	54	52	46	45	+10	13
Business sophistication	99	94	91	79	97	-2	23
Innovations	103	84	85	72	59	+44	20

Source: WEF, *Global Competitiveness Report 2012-2016*.

The current rating of the GCI makes it possible to identify problem areas and make timely decisions on improving positions on these sub-factors.

In this regard, let us consider in more detail the factor *Health and primary education* in the rating of the GCI. This indicator is one of the most problematic factors in the ranking, whose positions practically do not change for the better. In 2016 (94th place) in comparison with 2012 (92nd place), there is a worsening of the position by 2 points. This indicator consists of 10 sub-factors, which mainly characterize the development and effectiveness of health care and primary education (See Table 4 one the next page).

For all relevant sub-factors, Kazakhstan has improved its position in the rating over the past 5 years, but it still takes a weak position. So, the situation on *Infant mortality* has improved significantly (71st place, +27). Also, the most notable improvements in 2016 are observed by sub-factors *Tuberculosis incidence* (92nd place, +15), *Life expectancy* (90th place, +14), *HIV prevalence* (1st place, +11).

Table 4. Positions of Kazakhstan in the GCI on the sub-indicators of *Health and primary education*

Health & Primary Education / **Year & country**	2012	2013	2014	2015	2016	**Kazakhstan (2016)**	**Korea (2016)**
Global Competitiveness Index by the factor "Health and primary education"	-	-	-	-	-	**94**	**29**
Business impact of malaria	1	1	n/d	n/d	n/d	**n/d**	**22**
Malaria incidence cases/100,000 pop.	1	1	n/d	n/d	n/d	**n/d**	**16**
Business impact of tuberculosis	112	111	111	107	106	**106**	**86**
Tuberculosis incidence cases/100,000 pop.	107	105	102	101	92	**92**	**89**
Business impact of HIV/AIDS	73	76	81	80	81	**81**	**80**
HIV prevalence % out of adult population	12	45	1	1	1	**1**	**1**
Infant mortality (deaths/1,000 live births)	98	98	81	78	71	**71**	**13**
Life expectancy (years)	104	103	99	95	90	**90**	**10**
Quality of primary education	72	69	64	63	70	**70**	**37**
Primary education enrollment rate net %	102	118	116	118	118	**118**	**54**

Source: WEF, *Global Competitiveness Report 2012-2016*.

According to the share of adults exposed to HIV diseases, Kazakhstan is on the 1st place. The improvement is due not so much to a reduction in the incidence of diseases, but to the fact that one position in the rating with the same value may be occupied by several countries. For example, the number of countries that occupy the first place can be 20. Then, there are countries with a different indicator value, but they occupy 21st place instead of the second.

The situation with the impact of *Tuberculosis* on doing business has improved, but this indicator still remains problematic. In 2016, Kazakhstan took 106th place on this sub-factor.

We will perform a comparative analysis of Kazakhstan on the values of indicators of the factor *Health and primary education* with Korea, having considered only health indicators. The positions of South Korea in the Global Competitiveness Index are presented at the last column in Table 3.

Let's compare the values of indicators by sub-factors characterizing the effectiveness of the healthcare system in Korea and Kazakhstan (see Table 4).

According to Table 4, we see a significant gap in the ranking between Korea (29th place) and Kazakhstan (94th place) in 2016 on the factor *Health and primary education*. Also, Kazakhstan lags behind Korea on all sub-factors.

For example, consider such an indicator as *Life expectancy*. In Korea, life expectancy has increased since 1960 for men from 52 to 78.8 years on average in 2015, and for women from 54 to 85.5 years in 2015 [11].

Such results became possible because of competent and nation-specific health system. An important factor in achieving success is also the prestige of the doctor's profession.

[11] World Health Organization, *Life Expectancy Data by Country*, 2015.

In Kazakhstan, for example, health care system preserved the principles of allocating finances mainly for the maintenance of the network, budget control, a fixed wages and administrative methods of management. This leads to the fact that doctors can hide the true information and manipulate statistics. The specialty of the doctor remains ineffective and not attractive to the doctor himself, who feels to be the most unprotected link when he has to work for almost all the profile services and maintain a large amount of reporting documentation. Thus, for example, medical service density is 10 doctors per 10 thousands population, that is, one doctor has to serve 2,500 people, whereas in OECD countries the average population per 1 doctor is 1,500 people. The average monthly salary of a doctor is 115 thousand KZT (350 US dollars)[12].

Also, one of the main points of provision of high quality of life in Korea is planned examinations of doctors. For example, the first Health Insurance Law, which came into force in 1963, called on all companies to provide health insurance programs. As a result, every able-bodied citizen of Korea is legally required to undergo a scheduled medical examination once a year. It includes: general tests, colonoscopy and gastroscopy, ECG, ultrasound of all organs, examination of a gynecologist, oculist, etc. Specialists will determine the body mass index and give recommendations on healthy diet and lifestyle. In general, everything is the same as in Kazakhstan. The difference is as follows in details. Patients in Korea strictly adhere to the requirements of the law. Experts assure that these annually conducted surveys allow to identify many diseases at the earliest stages, and to successfully cope with them. Korea ranks first in the treatment of cancer, but only because they are diagnosed and treated on time and early.

Moreover, in Korea, the patient cannot self-medicate. Since medicines in the required dosage and the required amount are given by prescription of a doctor in a hospital, they cannot be bought anywhere else. Each patient gets an electronic card, with all the diagnoses and treatment. This allows get quickly consultation of professionals in a single system anywhere in the country.

In general, in Kazakhstan, information systems are also being introduced, with the help of which it is possible to track the patient’s route of medical direction, to learn the results of tests, to choose a doctor, and to queue in a hospital, etc.

The State Health Insurance System in Korea has three sources of funding: contributions, government subsidies and an extra charge for tobacco products. Employees deduct 5% of wages, while the employee and the employer bear these costs equally. The state provides 14% of the annual planned program budget. And the extra charge for tobacco products is 6% of the total program budget. It should be noted that compulsory insurance covers from 50 to 80% of the cost of treatment, the rest of the amount is paid by the patient himself.

5. Healthcare Statistical Data in Kazakhstan and Korea

The analysis of the GCI on the factor *Health and primary education* showed a significant gap in the ranking between Korea and Kazakhstan in many sub-factors. However, it shows only the places that countries have occupied and does not give a complete picture of the understanding of affairs. For a more detailed analysis, let us consider the statistical indicators of health in Kazakhstan and Korea.

[12] Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan.

First, let's consider such an indicator as *Life expectancy*. In Korea, life expectancy has increased since 1960 for men from 52 to 78.8 years on average in 2015, and for women from 54 to 85.5 years in 2015 [13].

In Kazakhstan, the *Life expectancy* of the population has increased from 67.6 years in 1991 to 72 years in 2015. Moreover, it increased since 1991 for men from 62.6 years to 67.5 years in 2015, and for women from 72.4 years to 76.9 years [14].

Despite the significant lag between Kazakhstan and Korea in this indicator, nevertheless, in Kazakhstan there is a tendency to increase life expectancy. This is due to factors such as improving the quality of life, education, as well as progress in health.

Next, consider the indicators of *Maternal and infant mortality*. The infant mortality rate both in Kazakhstan and in Korea tends to decrease. In Kazakhstan and Korea, it is decreased by 36%. But Korea has a significant advantage, since infant mortality is 3.24 times lower than in Kazakhstan (see Figure 1).

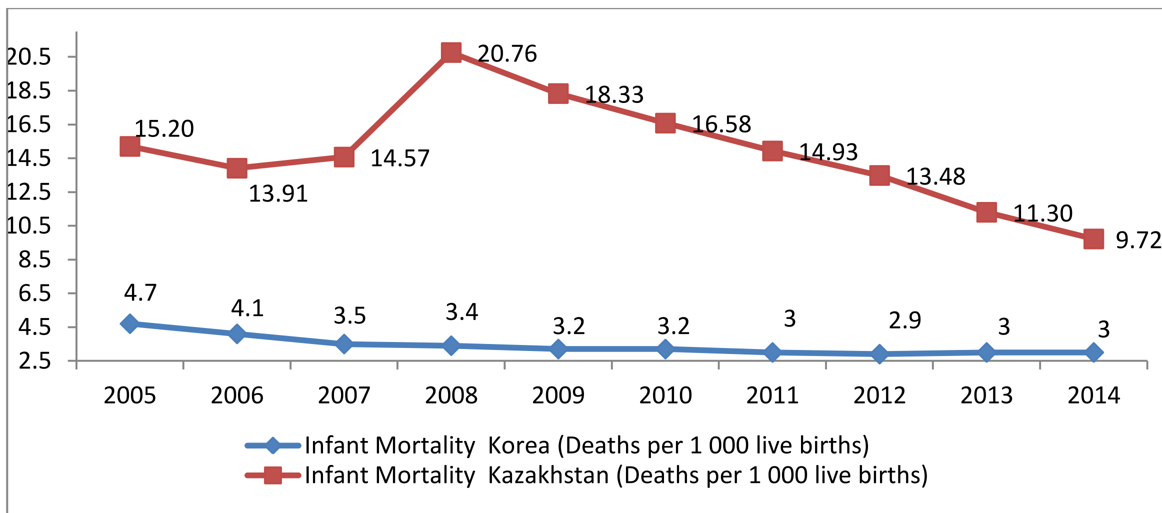

Figure 1. Infant Mortality Rates in Kazakhstan and Korea

Sources: Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, www.stat.gov.kz.
OECD, *OECD Health Statistics*, www.stats.oecd.org.

Maternal mortality rates in Kazakhstan and in Korea in 2014 are almost equal, and are amounted by 11.7 and 11.0, respectively (See Figure 2 on the next page).

Usually the quality of medical care is measured by such indicators as the number of consultation, coefficient of using of various diagnostic and surgical procedures, the average length of stay in hospitals, and the development of outpatient surgery.

[13] World Health Organization, *Life Expectancy Data by Country*, 2015.

[14] Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, www.stat.gov.kz.

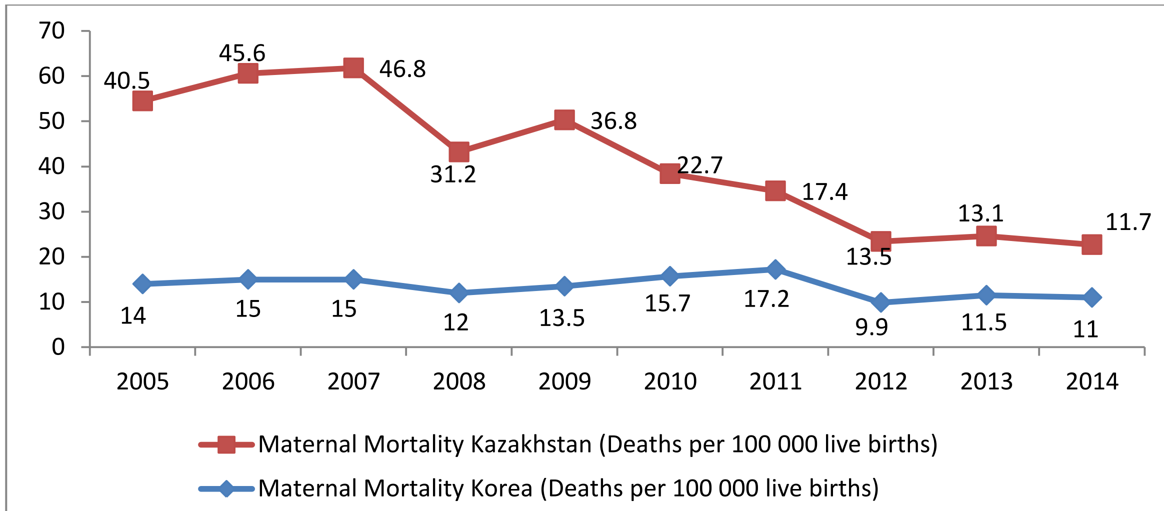

Figure 2. Maternal Mortality Rates in Kazakhstan and Korea

Sources: Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan (www.stat.gov.kz)

OECD, *OECD Health Statistics*, www.stats.oecd.org.

So, for example, the annual number of visits to doctors in Korea in 2013 is amounted to 14.6 consultations per person, which is the highest among the OECD countries (see Figure 3). In Kazakhstan, the number of visits to doctors in 2013 was 6.6 consultations per person, which is equal to the average for the OECD. It is worth noting that in 2015 this indicator in Kazakhstan is reduced and is 6.07 consultations per person [15].

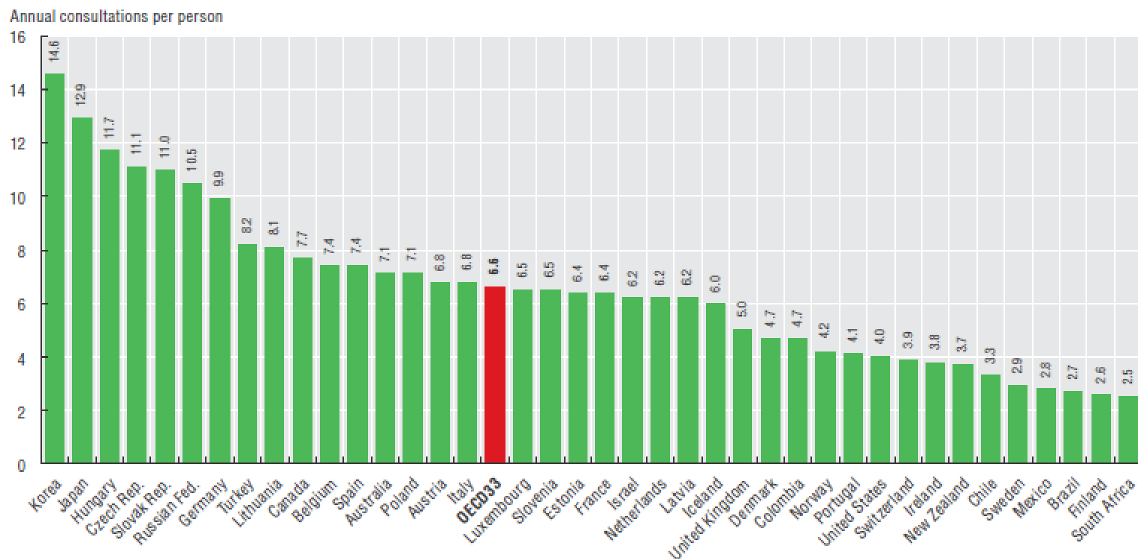

Figure 3. Annual number of consultations per person in 2013

Source: OECD, *Health at a Glance 2015: Health at a Glance*, 2015.

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[15] Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, www.stat.gov.kz.

Also, one of the main indicators characterizing the quality and access of medical care is the number of doctors. In a number of countries, the slow growth in the number of general practitioners raises concerns about the access of the population to primary health care.

For example, in Kazakhstan, the medical service density is declining and in 2012, it was 3.6 physicians per 1,000 population. In Korea, this indicator is 1.7 times smaller and equals to 2.1 doctors per 1,000 population. However, it tends to grow, albeit insignificant (See Figure 4).

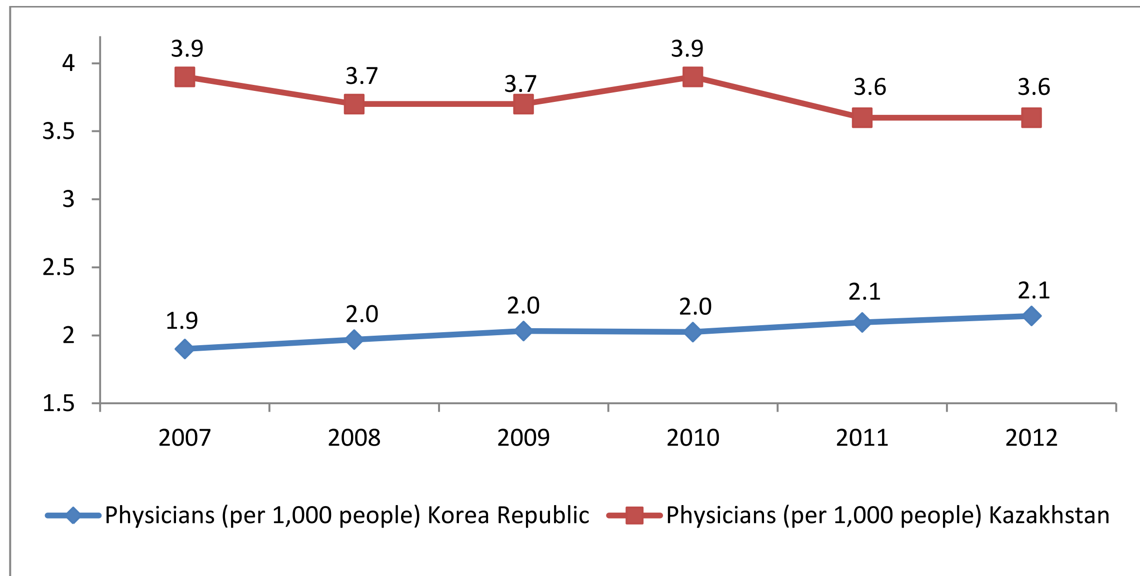


Figure 4. The number of physicians per 1000 population in Kazakhstan and Korea

Source: World Bank Data, http://data.worldbank.org

Another important indicator characterizing the effectiveness and sustainability of the health care system is private spending on health care services.

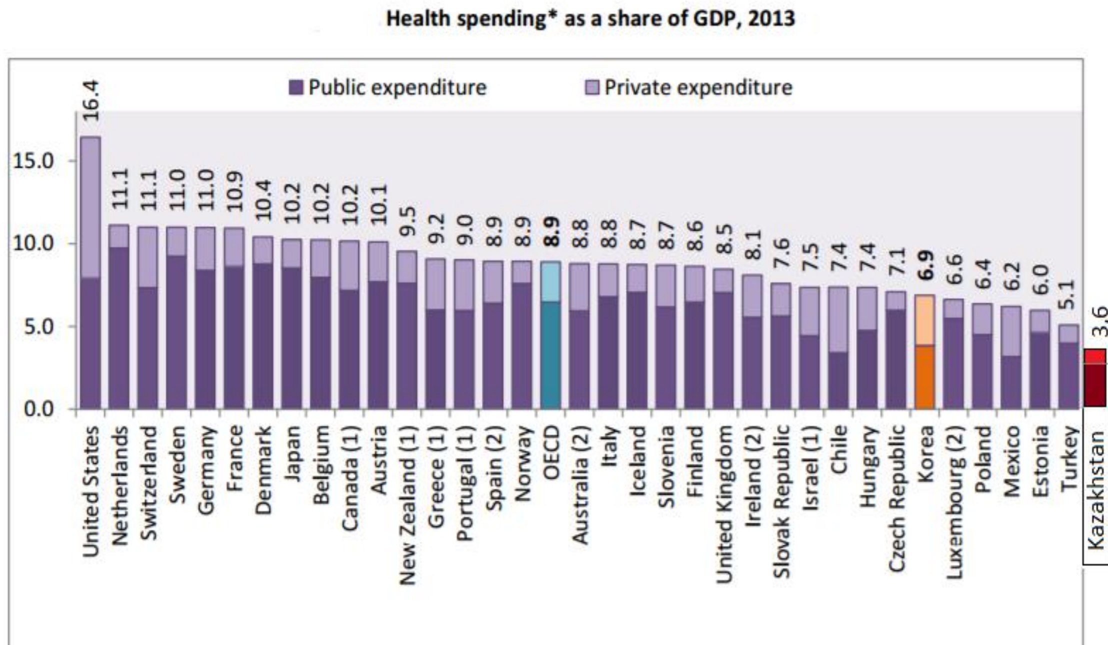
Private households' expenditures can create barriers to access to health care services. On average for OECD countries, about 20% of medical expenses are paid directly by patients. In low income households, the probability that their medical and dental needs are not met for financial or other reasons are four to six times higher than those of high income households.

In addition, according to WHO estimates, such a health system is considered sustainable, in which private spending accounts for no more than 20% of total health expenditures. Exceeding this indicator increases the risk for the population associated with their approach to the poverty line due to diseases, which, in turn, can affect all areas, as well as lead to deterioration of health and demographic indicators. Therefore, the state needs to reduce this indicator to achieve a more sustainable level of development of the health system.

Health spending (excluding investment expenditure in the health sector) in Korea in 2013 accounted for 6.9% of GDP, still well below the average of 8.9% in OECD countries (Figure 5). For comparison, in Kazakhstan, total health expenditure is 3.6% of GDP in 2013.

The public sector is the main source of health funding in nearly all OECD countries. However, in Korea the private sector plays a much more important role and only 56% of health spending was funded by public sources in 2013. In contrast, in Kazakhstan private spending on healthcare services is 36% of total health expenditures. If we take in the calculation of GDP, then private spending is 1.3% of GDP and public expenditure on healthcare is 2.3% of GDP.

Interestingly, from the Figure 4, we see that the medical service density (number of physicians per 1000 population) in Kazakhstan is at least 1.5 times of Korea. However, one person in Korea on average consulted doctor 14.6 times a year, while people in Kazakhstan consulted 6.6 times in 2013. This can be explained by the fact that in Korea people are more disciplined and more careful about their health than in Kazakhstan. Moreover, in Kazakhstan there is such a problem that managers do not welcome the opening of sick leave lists and the absence of work due to a visit to the doctor. Therefore, employees very rarely seek medical care and often go for work during illness.



*Excluding capital expenditure.
Source: OECD Health Statistics 2015 Kazakhstan National Health Accounts

Figure 5. Health spending as a share of GDP in OECD Countries and Kazakhstan in 2013

The public share reached a peak in 2010 at 58%. Since then there public expenditure growth has reduced, while private spending has continued to grow at more than 6% each year. Out-of-pocket spending is an important component of overall health expenditure in Korea. In per capita terms (adjusted for different price levels using economy-wide purchasing power parities), Korea spent USD 2,275 per head in 2013. This compares with an OECD average of USD 3,453 [16].

6. Conclusion

Thus, this comparative analysis between Kazakhstan and Korea allows us to draw a conclusion that the main slogan of the health of Korea is: "It is not profitable to be sick", but at the state scale it is not profitable at all. The management of even a small company understands that healthy employees are high labor productivity. The implementation of this slogan is, of course, conditioned by the economic mechanism for regulating health care in the country, such as financing, the

[16] OECD, *Country Note: How does health spending in Korea compare?*, 7 July, 2015, www.oecd.org/health

provision of independence to medical institutions in the distribution of profits, regulation of prices by types of medical services by the state. All of this is a positive experience that will be useful for the healthcare of Kazakhstan.

Undoubtedly, Korea excels Kazakhstan in many indicators of economic development, including the development of health care. But it is worth bearing in mind that in Korea, mandatory health insurance with universal coverage exists for 40 years, and the law on health insurance was adopted more than 50 years ago.

In Kazakhstan, mandatory social health insurance now is being introduced. And the government wants to immediately achieve universal coverage. Of course, risks are not excluded, such as moral hazard from both the patient and the providers of health services, which is so common in insurance models of many countries. There are also risks of shortfall in financial receipts, or concealment of true incomes. But, as experience of Korea shows, the main thing is to react in time to changes in the system, to track the movement of financial receipts and to conduct regular monitoring of the provided medical services. And in the near future, Kazakhstan will achieve the same high rates in health care indicators as Korea did.

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