



Research on health expenditure in Kazakhstan

Fangzheng ZHAO^{a*}, Jinfeng CHE^a, Jiawei WEI^b, Zhangchen LIU^b, Jing LI^c, Aliya ZHENIS^d

^a Fifth Affiliated Hospital of Xinjiang Medical University, Urumqi Xinjiang 830000, China

^b Xinjiang Medical University, Urumqi Xinjiang 830000, China

^c Academy of Public Policy and Economics, Almaty Office, Almaty, Kazakhstan

^d Astana International University, Astana, Kazakhstan

Abstract

Objective To understand and study Kazakhstan's resource planning and budget allocation in the field of health care through data related to Kazakhstan's health expenditure, to ensure the sustainable development of the health field between China and Kazakhstan, and to promote the medical and health undertakings among countries along the Belt and Road Initiative. Learn from each other's strengths and complement each other's weaknesses to promote cooperation. **Methods** Using the literature review method and comparative method, the per capita health expenditure in Kazakhstan and the other five Central Asian countries and China from 2001 to 2021 was compared with the proportion of GDP per capita, the proportion of self-pay expenditure in per capita health expenditure, and the total government health expenditure in the country. The proportion of GDP, per capita health expenditure and its proportion to per capita GDP, and the average actual growth average of per capita government health transfer expenditure and self-pay expenditure are compared with each other's medical and health security systems, health expenditures, national health levels and health resources. **Results** From 2001 to 2021, Kazakhstan's per capita health expenditure accounted for per capita GDP fluctuated between 2% and 4%, while other countries had growth trends of varying degrees. China's growth trend was relatively stable; Kazakhstan's per capita out-of-pocket health expenditure grew on average. The value is the lowest, only 1.05%, and the growth of government health transfer expenditures is at a medium level; the proportion of Kazakhstan's self-pay expenditures in per capita health expenditures and the proportion of total government health expenditures in GDP are also at a medium level. **Conclusion** (a) Kazakhstan's medical and health security system has certain effectiveness, and China's medical and health security system also has its advantages. There is a need for in-depth cooperation and development between China and Kazakhstan. (b) Kazakhstan needs to maintain a low proportion of per capita health expenditure in per capita GDP. The low growth rate of self-pay health expenditure and the low proportion of self-pay expenditure in per capita health expenditure are conducive to maintaining social equity and social welfare levels. (c) It is necessary for Kazakhstan to increase investment in the health field, promote medical research and innovation, and deepen cooperation in the medical and health field with countries along the "Belt and Road".

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* Corresponding author.

E-mail address: fangzheng314@aliyun.com

"Belt and Road" initiative is a major global economic development strategic concept proposed by President Xi Jinping in 2013. It is a win-win cooperation path to promote common development and achieve common prosperity. At the Central Asia Summit on May 18, 2023, the two countries in the "Joint Statement of the People's Republic of China and the Republic of Kazakhstan" issued, the two heads of state spoke highly of the results of cooperation in the 10 years since the joint construction of the "Belt and Road" initiative was launched. The two sides reiterated that they will further strengthen regional connectivity, take the joint construction of the "Belt and Road" cooperation as the main line, vigorously promote the docking of the joint construction of the "Belt and Road" initiative and Kazakhstan's policies, and actively open up new areas for practical cooperation between China and Kazakhstan. Kazakhstan is the initiator of the Belt and Road Initiative. It is one of the first countries to cooperate with China on the Belt and Road Initiative and has the closest cooperation. It is an important partner of China in Central Asia. At the same time, Kazakhstan has continued to contribute to the grand blueprint of the "One Belt, One Road" initiative. The national economy has developed rapidly, and the cooperation between China and Kazakhstan has become closer and deeper.

The "Healthy China 2030 Planning Outline" clarified the health investment mechanism based on the principle of government leadership. The 20th National Congress once again emphasized "Promoting the construction of a healthy China" and "Putting the protection of people's health in a strategic position of priority development." The government's total health expenditure is an important part of the national economy and fiscal budget, and is also the focus of in-depth exchanges between the two countries in the medical and health field. The government's total health expenditure covers many aspects of the medical and health sector, including government health transfer expenditure, which refers to the government's expenditure on social welfare, insurance, poverty relief and subsidies, etc. These expenditures are through the government's transfer of revenue in different This is achieved through redistribution among members of society. Per capita health expenditure mainly consists of two parts: government health transfer expenditure and personal payment. These two parts of health expenditure are closely related to economic development. Health expenditure is not only related to personal health and happiness, but also closely linked to the country's economic, social and long-term development. Therefore, China and Kazakhstan should pay attention to and rationally allocate resources to ensure the effectiveness and sustainability of health expenditure.

This article collects relevant health expenditure data in the Republic of Kazakhstan, the proportion of personal payments in per capita health expenditures and total government health expenditures in GDP in 2021, the components of per capita health expenditures, domestic government health transfer expenditures and personal payment health expenditures, Health expenditure data such as the actual growth of government health transfer expenditures and out-of-pocket expenditures in per capita health expenditures from 2000 to 2021, understand and study Kazakhstan's resource planning and budget allocation in the health care field, and ensure the sustainability of the health fields in both countries development, promote the medical and health services among countries along the Belt and Road to learn from each other's strengths and promote cooperation. At the same time, studying Kazakhstan's health expenditure will also help find entry points for in-depth health cooperation between China and Kazakhstan, so as to achieve precise cooperation .

1 Source

Information data are obtained from the World Health Organization Global Health Expenditure Database and the National Statistical Office of the Republic of Kazakhstan. By searching journals and online literature, and consulting relevant experts, we learned about the medical and health situation in the five Central Asian countries, and collected the proportion of per capita health expenditure in per capita GDP, the scale of total government health expenditure, government health transfer expenditure and self-payment in China and the five Central Asian countries. The actual growth average of expenditures and other aspects of the data are compared and analyzed.

2 Results

2.1 Health expenditures in Kazakhstan

Table 4 Key health expenditure data of Kazakhstan in selected years

	2005	2010	2015	2021
Health expenditure per capita (USD)	142	244	314	403
Proportion of government health expenditure in health expenditure (%)	64.9%	67.4%	63.1%	65.3%
Proportion of out-of-pocket expenditures in health expenditure (%)	34.4%	27.3%	32.1%	25.0%
Government health expenditure as a share of general government expenditure (%)	11.5%	8.2%	8.4%	11.6%
GDP per capita (USD)	3,649	8,904	10,338	10,268

Table 4 collects key health expenditure data for some years. You can briefly see the changing trends of various health expenditure data from 2001 to 2020. Figures 1, 2, and 3 below are visual charts of the statistics for 21 years. You can learn about Kazakhstan. The size, trends and structure of various types of health expenditures.

It can be seen from Figure 1 that per capita health expenditure mainly consists of government health transfer expenditure and personal payment. In addition, it also consists of social health insurance payment, voluntary prepayment and other aspects. It can be seen from Figure 2 that since statistics were collected in 2001, Kazakhstan's per capita health expenditure reached a small peak in 2012-2014, and then gradually decreased in the following years, until 2020, which may be due to the global spread of the new coronavirus pneumonia. Health costs began to increase. Figure 3 shows the changes in the proportions of the two most important parts of health expenditure from 2001 to 2020. These two parts have not fluctuated much.

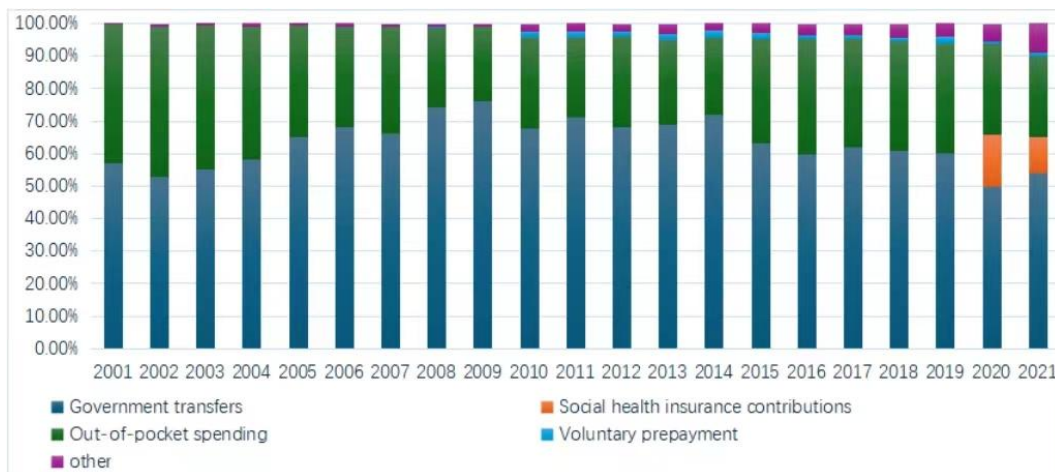


Fig. 1 Proportions of various categories of per capita health expenditure in Kazakhstan from 2001 to 2020

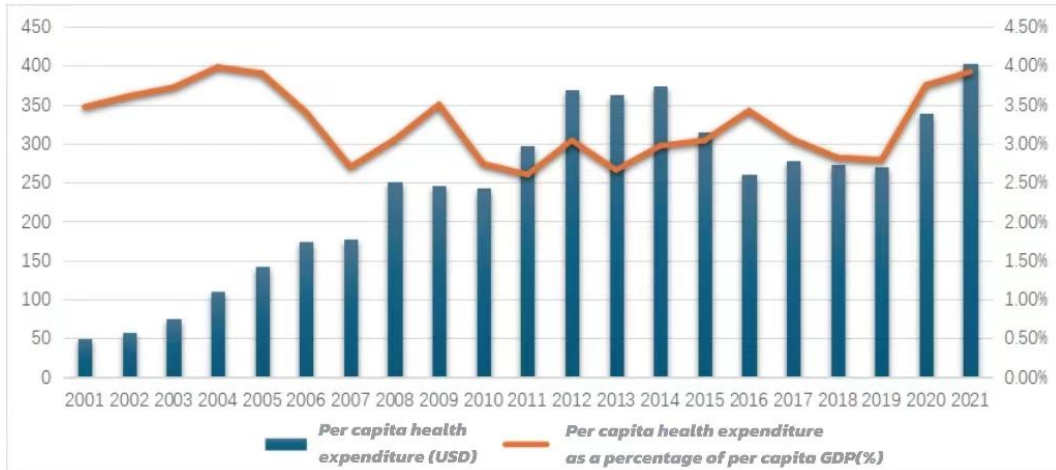


Fig. 2 Changes in per capita health expenditure and its proportion in per capita GDP in Kazakhstan from 2001 to 2020

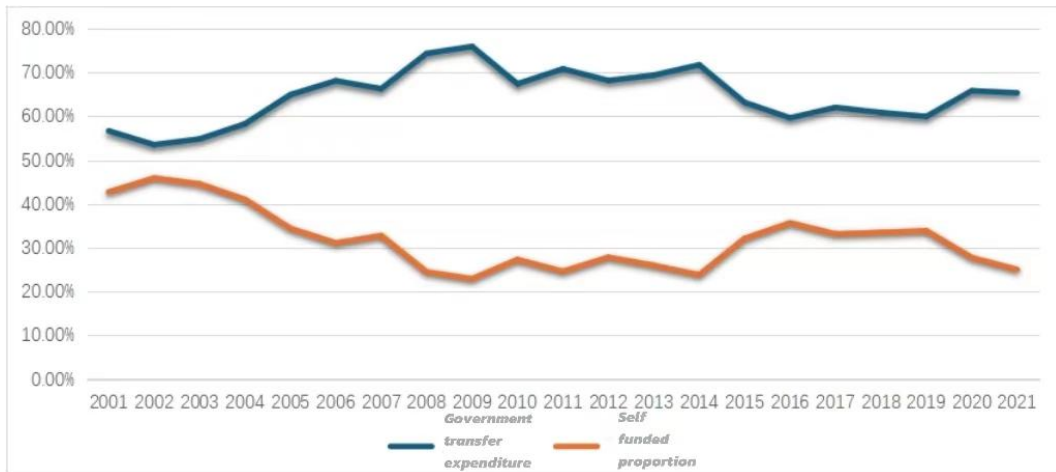


Fig. 3 Changes in the proportion of two important parts of health expenditure in Kazakhstan from 2001 to 2020

2.2 Comparison of health expenditures across countries

Because the per capita GDP of each country is different, the health expenditure scale of each country is compared based on the ratio of per capita health expenditure to per capita GDP and the ratio of total government health expenditure to GDP. It can be seen from Table 1 that the proportion of Kazakhstan's per capita health expenditure in per capita GDP fluctuates between 2% and 4%, while other countries have different degrees of growth trends. China's growth trend is relatively stable, while Tajikistan's growth trend is greater, and from It has been at the highest level since 2016.

It can be seen from Table 2 that different countries have differences in total health expenditures. Among the compared countries, Kazakhstan's proportion of self-pay expenditures as a percentage of per capita health expenditures and the proportion of total government health expenditures as a percentage of GDP are both at a medium level, while Turkmenistan is at a medium level. It is not optimistic, and as the world's largest country, the United States is also a leader in the medical and health field.

The average actual growth data of government health transfer expenditures and self-pay expenditures in various countries from 2000 to 2021 is shown in Table 3. It can be seen that Kazakhstan has the lowest average growth rate of per capita self-pay health expenditures, only 1.05%, and the growth of government health transfer expenditures is at a medium level., Turkmenistan, which has a low level of medical care, has

the highest average growth rate, with an annual increase of 10%, and the lowest average growth rate of government transfer health expenditure is only 2.37%. China, with the highest concept of "people-centered", has the highest average growth rate of government health transfer expenditure in 21 years, reaching 13.72% .

Table 1 Per capita health expenditure as a proportion of per capita GDP in the five Central Asian countries and China (%)

Years	Kazakhstan	Kyrgyzstan	China	Tajikistan	Uzbekistan	Turkmenistan
2001	3.47%	4.28%	4.25%	4.58%	5.24%	4.82%
2002	3.61%	4.59%	4.38%	4.44%	5.14%	4.16%
2003	3.72%	5.82%	4.42%	4.70%	5.19%	5.04%
2004	3.98%	6.20%	4.29%	4.80%	4.84%	6.26%
2005	3.90%	7.45%	4.18%	5.21%	4.78%	5.65%
2006	3.40%	8.31%	3.95%	5.03%	4.75%	4.98%
2007	2.70%	6.93%	3.67%	5.54%	4.54%	3.13%
2008	3.05%	6.53%	3.90%	5.91%	4.70%	3.49%
2009	3.50%	6.90%	4.35%	5.86%	4.80%	2.85%
2010	2.74%	6.95%	4.23%	5.74%	5.30%	3.24%
2011	2.60%	7.11%	4.34%	5.86%	5.26%	3.25%
2012	3.04%	8.51%	4.57%	5.98%	5.55%	3.37%
2013	2.66%	8.19%	4.71%	6.53%	5.72%	3.94%
2014	2.97%	7.36%	4.78%	6.67%	4.43%	4.31%
2015	3.04%	7.15%	4.94%	6.91%	4.74%	5.12%
2016	3.42%	6.41%	4.98%	6.96%	4.72%	5.74%
2017	3.05%	6.19%	5.07%	6.85%	4.84%	5.94%
2018	2.82%	5.01%	5.17%	7.01%	5.08%	5.69%
2019	2.79%	4.49%	5.35%	6.95%	5.43%	5.68%
2020	3.75%	5.26%	5.59%	8.18%	6.75%	5.68%
2021	3.92%	5.44%	5.38%	8.01%	7.74%	5.57%

Table 2 Total health expenditure scale of various governments in 2021

Country	Proportion of out-of-pocket expenditures in per capita health expenditures (%)	Total government health expenditure as a share of GDP (%)
China	34.39%	2.91%
Kyrgyzstan	40.66%	2.91%
Kazakhstan	25.03%	2.56%
Uzbekistan	60.33%	3.03%
Tajikistan	63.54%	1.94%
Turkmenistan	78.56%	0.89%
USA	10.07%	9.62%

Table 3 Average real growth of per capita government health expenditure and out-of-pocket expenditure in various countries from 2000 to 2021

Country	Average growth rate of out-of-pocket health expenditure per capita (%)	Average growth in government health transfer spending (%)
China	6.09%	13.72%
Kyrgyzstan	2.11%	3.77%
Kazakhstan	1.05%	5.53%
Uzbekistan	6.89%	6.92%
Tajikistan	7.46%	9.39%
Turkmenistan	10.05%	2.37%

3 Discussion

3.1 China-Kazakhstan health insurance development and medical reform

Starting from 2020, "social health insurance payment" has appeared in the composition of per capita health expenditure. This is a special subsidy issued to people who have lost their jobs due to the new coronavirus pneumonia epidemic. With the continuous deepening of the reform of Kazakhstan's social security system, social health insurance contributions Insurance plays an increasingly important role in improving its multi-level medical security system and meeting the people's growing health security needs. Kazakhstan News Agency, March 1, 2021, Tokzhanov, President of Kazakhstan's Social Medical Insurance Fund, said that day that Kazakhstan's medical insurance system has covered 84% of the country's population, and Tokzhanov pointed out that during the period of issuing special subsidies, the number of residents paying medical insurance premiums through the unified payment platform has surged. If this trend is maintained, the coverage rate of the medical insurance system will reach 92% in the future. Kazakhstan's long-term medical care and health care needs support the long-term development of health insurance. It can be seen from Figure 2 that since statistics were collected in 2001, the per capita health expenditure in Kazakhstan has been on an overall growth trend, and the personal expenditure part shows a downward trend in Figure 3. These personal expenditures on medical and health expenses are inseparable from social health insurance. Raise. Since the outbreak of the new coronavirus pneumonia, people's health awareness has continued to increase, and their demand for health care will continue to grow. As a result, Kazakhstan has discovered that there is a huge potential demand for social health insurance.

From the perspective of the development of health insurance premiums in China, the growth and demand for health insurance are equally huge. In the process of deepening the reform of the medical and health system, we must not only learn from the successful experience of developed countries, but also refer to and introduce some policies that are closely related to our country's economy and society. practices in countries with similar development status. According to statistics, China's commercial health insurance premium income has increased from 3.654 billion yuan in 1999 to 86.276 billion yuan in 2012, with an average annual growth rate of 27.53%. During the same period, the average annual growth rate of personal insurance premium income was 20.79%, life insurance was 20.74%, and personal accident insurance was 14.39%. The growth of health insurance is evident. In 2012, the original insurance premium income of health insurance reached 86.276 billion yuan, a year-on-year increase of 24.73%. In 2013, the growth rate of health insurance reached a new high, with original insurance premium income reaching 58.647 billion yuan, a year-on-year increase of 25.80%, continuing the positive growth trend since 2012. Although China's current medical security system has basically achieved full coverage, due to China's large population base and uneven economic and social development levels in various regions, the existing security system has overall low financing and security levels, insufficient competition in the medical market, and hierarchical Problems such as the lack of a truly established diagnosis and treatment system ^[1]. Kazakhstan's medical and health system has its own characteristics. It has made active attempts in both compulsory medical insurance and voluntary medical insurance systems. From 2000 to 2021, the Kazakhstan government's health transfer expenditure fluctuated between 60% and 72% of per capita health expenditure. The overall situation is relatively stable, which shows

that the resource allocation of Kazakhstan's total government health expenditure in terms of national health expenditure is very reasonable and fairly fair. Even during the outbreak of the new coronavirus pneumonia in 2020 and 2021, government health transfer expenditures did not fluctuate significantly, confirming that Kazakhstan's government health expenditure policies are in line with local conditions and indicating that compulsory medical insurance will still become a trend [2].

In summary, it can be seen that the in-depth and multi-level development of social health insurance has a huge effect on reducing people's medical costs and risks, promoting social equity and stability, and also brings certain influence to the medical and health expenditure policies and development directions of countries along the "Belt and Road" Reference and guidance significance.

3.2 International differences in health expenditures

3.2.1 Differences in per capita health expenditure

From 2000 to 2021, Kazakhstan's per capita health expenditure accounted for the lowest per capita GDP, never exceeding 4% in 21 years, ensuring fair medical and health services for Kazakhstan's citizens. This may be due to the continuous improvement of medical standards and the significant results of the medical and health system reform. Other countries have different levels of growth trends. In comparison, it is not difficult to find that Kazakhstan has achieved good results in maintaining low per capita health expenditure. This can enhance social fairness and stability, and citizens can reasonably rely on the government. Health expenditure can effectively reduce personal health expenditure and reduce personal medical costs and burdens. Ensuring that every citizen has access to basic medical care is a reflection of social equity. Reasonable social health security can help reduce poverty, narrow social gaps, and improve the welfare level of the entire society. At the same time, a good health system can respond to public health emergencies and ensure social stability and security. These aspects have brought certain practical significance to the development of China's medical and health undertakings.

China's per capita health expenditure growth trend is relatively stable. In the past, the problem of difficult and expensive medical treatment in China was a complex social problem involving multiple factors, such as uneven distribution of medical resources, imperfect medical insurance system, and high drug prices. But in recent years, the Chinese government has taken a series of measures to solve these problems and achieved certain results. At the same time, we should also realize that solving these problems requires a long-term process. We need to continuously promote the reform of the medical and health system, strengthen the investment and management of medical resources, and improve the quality and efficiency of medical services. In addition, it is also necessary to strengthen the popularization and publicity of medical and health knowledge and improve the public's health awareness and self-care ability. When learning from the experiences of other countries, we need to make appropriate adjustments and improvements based on our own actual conditions to ensure that these experiences can play a positive role in China's medical and health system.

3.2.2 Medical development issues reflected in the government's total health expenditure

Government's total government health expenditure as a proportion of GDP in 2021 is at a medium level compared to other Central Asian countries. The proportion of health expenditure may be affected by the level of economic development and fiscal situation of each country, and there may be reasons for the lower proportion in Kazakhstan. For example, this may be related to the country's fiscal budget allocation, the organization and efficiency of the health care system, policy priorities, and other socioeconomic factors. Different countries may have different strategies and priorities, which will all affect the proportion of health expenditure. In developed countries, the total health expenditure of the US government accounts for nearly one-tenth of GDP, which is much higher than that of countries such as China and Kazakhstan. The high

proportion of U.S. expenditures in the health field may reflect the emphasis on public health and the greater investment in the health care system to ensure that the United States maintains its leading position in the world's health care level. Moreover, the United States' out-of-pocket health expenditure only accounts for one-tenth of per capita health expenditure, which shows the gap between us and the world's top countries. Therefore, we must target developed countries, increase investment in the health field, and increase talent training, and in-depth exchanges and cooperation in the medical and health field under the grand background of the "Belt and Road Initiative", learning from each other's strengths and weaknesses, and continuous development.

3.2.3 Analysis of out-of-pocket medical expenditures in "Belt and Road" countries

Among the countries counted in 2021, the proportion of self-pay expenditures in per capita health expenditures in China, Kazakhstan and Kyrgyzstan has remained good, at 34.39%, 25.03% and 40.66% respectively. Kazakhstan is only higher than the 10.05% in the United States.. The average growth rate of Kazakhstan's per capita out-of-pocket health expenditure is at the lowest level among the five Central Asian countries and China, only 1.05%. This shows that Kazakhstan's medical security system is constantly improving, the level of social welfare is constantly improving, and more people can enjoy it. Covered by medical insurance, reducing the burden of out-of-pocket expenses. Reasonable low out- of-pocket medical care can help enhance national health, improve quality of life and happiness, and also help reduce inequality in medical services due to differences in economic status. More people can receive timely and appropriate medical services, allowing patients to Being able to cope with the disease better and not delaying or giving up on treatment due to high out-of-pocket costs, leading to tragic outcomes. Although the average growth rate of China's per capita out-of-pocket health expenditures in the 21 years of statistics is relatively high, it cannot be ignored that the average growth rate of government health transfer expenditures is at a relatively high level, indicating that our country is constantly exploring a balance between the two., and this is precisely the epitome of the continuous deepening of reforms in China's medical and health services.

Turkmenistan 's out-of-pocket expenditures accounted for the highest proportion of per capita health expenditures, reaching 78.56%. Uzbekistan and Tajikistan both exceeded 50%, accounting for 60.33% and 63.54% respectively. The average growth rate of per capita out-of-pocket health expenditures in these three countries was the same. higher. According to the World Health Organization's "Health Financing Strategy for the Western Pacific and Southeast Asia Region (2006-2010)", if a country's per capita health expenditure accounts for more than 50% of its own health expenditure, extreme inequity will usually occur and may Leading to disease-related poverty and catastrophic health expenditures. These data reflect the different situations in the medical and health field in various countries, and also highlight the importance of improving the medical security system and reducing out-of-pocket expenditures. In order to achieve a more equitable and sustainable medical and health system, countries need to deepen practical cooperation in various fields under the "Belt and Road" framework and adopt effective policy measures to ensure that people have access to affordable, high-quality medical services.

Through the relevant health expenditure data of Kazakhstan, five Central Asian countries and China, the proportion of personal payment in per capita health expenditure and total government health expenditure in GDP in 2021, the components of per capita health expenditure, domestic government health transfer expenditure Comparison and analysis of health expenditure data such as personal health expenditures and the actual growth of government health transfer expenditures and self-pay expenditures in per capita health expenditures from 2000 to 2021 can be concluded: **(a)** Kazakhstan's medical and health security system has certain effectiveness, and China The medical and health security system also has its advantages, and there is a need for in-depth cooperation and development between China and Kazakhstan. **(b)**Kazakhstan needs to maintain a low proportion of per capita health expenditure in per capita GDP. The low growth rate of self-pay health expenditure and the low proportion of self-pay expenditure in per capita health expenditure are conducive to maintaining social equity and social welfare levels. **(c)**It is necessary for Kazakhstan to increase

investment in the health field, promote medical research and innovation, and deepen cooperation in the medical and health field with countries along the "Belt and Road" .

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