

THE MARKET MECHANISM OF REDUCING BUDGET EXPENDITURES IN THE HEALTH CARE SYSTEM: IN CASE UZBEKISTAN

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ABSTRACT

Financial sustainability of the health sector plays a crucial role in meeting the public health needs. The goal of effective healthcare financing is to ensure the constitutional rights of the population to use health services and to minimize social inequality in medical services. In addition to introducing market mechanisms to increase the amount of funds allocated to the financial support of the sector, it is important to take additional funding measures, while retaining the share of funds directed to healthcare in GDP and growth dynamics.

This article outlines the ways in which social development can be solved through economic methods that enable economic regulation of the economy rather than budgeting and subsidies. The article focuses on the development of health services and the development of health insurance as a market mechanism for the country's effective use of budget funds. The main coactive ways of development of the medical insurance market in Uzbekistan are offered. In this article, the impact of the state budget expenditure on the market of medical services and health insurance is determined by the regression analysis method. Based on the findings, proposals and recommendations on effective use of budget expenditures directed at healthcare systems in Uzbekistan have been developed.

Keywords: Medicine, budget, compulsory health insurance, health care

INTRODUCTION

In accordance with the adopted Strategy for Development of the Republic of Uzbekistan for the period 2017-2021. provides for "... further reform of the healthcare sector, primarily the primary link, emergency and emergency medical care, aimed at increasing the accessibility and quality of medical and social services for the population, creating a healthy lifestyle for the population, strengthening the material and technical base of medical institutions.

In Uzbekistan, a draft law "On medical insurance" will be developed. This was stated in the Decree of the President of the Republic of Uzbekistan Shavkat Mirziyayev "On measures to further develop the private sector in the healthcare sector". The legal framework for the accelerated development of the market for paid medical services, with the introduction of a comprehensive health insurance system, along with guaranteed free public assistance to the population, additional opportunities for the use of quality and inexpensive counseling-diagnostics, therapeutic, rehabilitation and other types of health services will serve as a service. At the same time, the concept of the project "Medical Insurance" is aimed at regulating the relationships in the field of health insurance, determining the legal basis of voluntary and compulsory health insurance, provision of guaranteed high quality medical services on insurance policies, incentives for participation in the health insurance system and create preferences and more.

According to the Law of the Republic of Uzbekistan on the protection of civil rights and the Healthcare Reform Concept, one of the sources of public health financing is the health

insurance. At present, voluntary medical insurance is successfully developing in the republic. Medical insurance is increasingly aware of the fact that more businesses and organizations are interested in protecting their employees' health, and also to reduce the cost of staff health.

LITERATURE REVIEW

In the world, we founded very few studies that have analyzed health insurance sector and challenges it faces. Most of the studies have documented issues and challenges the system faces in terms of accessibility, efficiency and quality of the health care delivery.

Some of scientists (Guy Carrin and Chris James) analyzed the experience of eight countries: Austria, Belgium, Costa Rica, Germany, Israel, Japan, Republic of Korea (ROK) and Luxembourg in the implementation of social health insurance. Also, they stressed on the importance of the socioeconomic and political context, particularly in relation to the level of income, structure of the economy, distribution of the population, ability to administer and level of solidarity within the country, but also stresses the important stewardship role government can play in facilitating the transition to universal coverage via social health insurance.

Another economists (David M. cutler& Richard Johnson) examined the factors leading to creation and growth of national Old-Age Insurance (OAI) and Health Insurance schemes. By the author ideas there was weak evidence that the probability of adopting a system declines in in Germany and Austria's wealth and in the ethnic heterogeneity of its population. They founded that the growth of OAI spending since 1960 has varied considerably across countries, with fast growth in countries emerging from dictatorship and non-English speaking countries. Besides it, they conclude that social insurance can be politically expedient for many different reasons.

The role of the Insurer in the Health Care System of some European Countries was studied by several economists (Rowena Jacobs and Maria Goddard), in their research paper they examined the role of social health insurance in four European countries: Germany, Switzerland, France and the Netherlands. It attempts to elucidate the organizational structure, regulation and management of the social insurance schemes, as well as the relationships between the insurers, providers and consumers in the various countries with the aim of uncovering some of the inherent strengths, weaknesses and tradeoffs which exist within social insurance systems.

Indian researchers (Ramesh Bhat and Nishant Jain) studied factors affecting the renewal of health Insurance policy in India. In their work they founded the factors affecting health insurance renewal are not the same as factors affecting health insurance purchase decision in in case India. This had had implications for insurance providers. The study also suggested customer satisfaction as an important factor influencing the renewal decision of policy holder.

Some Japanese scientists in medical area (Sumiko Ogawa, Toshihiko Hasegawa et. al.2003) deeply studied Japan's experience with the 19th century Jyorei scheme. They focused on the initial experience of working with public health insurance in Japan in the 19th century, called "Jyorei". While Djieri began in 1835 in a village in Fukuoka Prefecture, he gradually expanded, and the main ideas came under government control. It was expanded as the basic model of the National Health Insurance Fund, one of the foundations of Japan's social health insurance system. According to the authors` idea, several points of

success for Jyorei are relevant today for developing countries wishing support community health insurance.

The problems of implementation and development of health insurance in general and the organization of health insurance in particular are considered in the works of a number of scientists and CIS practitioners: Egorova TN. (Egorov T.N., 2008), Petrunicheva O.Zh. (Petrunicheva O.Zh., 2010), Uhlin DA (Uhlin D.A., 2009), Sokolova NA, Timonina E.N., and others. Some aspects of the social sector financing practice in Uzbekistan include V.V. Vahabov (Vahobov A. et al., 2009), N.X.Jumaev, T.Malikov, O.O.Olimjanov, N.Haydarov, A. B. Jurayev (Jo'raev A.B., 2001), U.A.Burxanov, O.R.Rayimberdieva, GA Kosimova, Malikov T.S. (Malikov T.S., Haydarov N.H., 2009), A.O. Sultanova, O.D.Rajabov and M.R.Turtaevs.

Compulsory health insurance in many developed countries the national system [9] is their guaranteed medical care helping them to improve their healthcare costs and drastically reducing their costs. Effectiveness healthcare only based on compulsory health insurance principle after the healthcare system (state health and social insurance and public health system). At present, this model is well-developed in Germany and France. This is Because the system is governed by some degree, it is "Managed health insurance system" (Kucherenko V.Z., Danishevskiy K.D., 2000).

However, the presence of the urgency of development issues in the organization of health insurance in Uzbekistan necessitates further research on this problem.

DATA AND METHODOLOGY

These factors have been identified from State Committee of Statistics of Uzbekistan for 2005-2017 years. (Table 1)

Table 1. Budget expenditures, medical services development and health insurance statistics for the health sector of the Republic of Uzbekistan

Years	Budget expenditure on health care system (Y)	Medical care (X ₁)	<i>(billion sums)</i>
			Medical Insurance Volume (X ₂)
2005 y.	362,9	35	1268,3
2006 y.	596,354	56,7	1726,27
2007 y.	789,0894	75,5	2184,24
2008 y.	934,1	112,5	2642,21
2009 y.	1259,8	175,5	3100,18
2010 y.	1716,5	214,9	3558,15
2011 y.	2228	265,1	3281,9
2012 y.	3027	388	5559,5
2013 y.	3709,9	525,1	4963,9
2014 y.	4495,3	708,7	5007
2015 y.	5203,8	934,7	5848
2016 y.	6002,7	1204,2	6305,97
2017 y.	6882,9	1369,274545	6763,94

Economic-mathematical assessment of the budget costs can be conducted using several instruments. We have used econometric analysis, in particular we used regression analysis, a kind of statistical method for studying the effect of one or more independent variables on a

dependent variable. Linear regression assumes that the function f depends linearly on ω the parameters. In this case, a linear dependence on the free variable x is not necessary,

$$y = f(\omega_j x) + v \tag{1}$$

In the case where the linear regression function has the form:

$$y = \sum_{j=1}^n \omega_j \cdot x_j + v = \langle w_j x \rangle + v_j$$

Here x_j are the components of the vector x . The values of the parameters in the case of linear regression are found using the method of least squares. The use of this method is justified by the assumption of a Gaussian distribution of the random variable.

ANALYZE RESULTS AND DISCUSSION

Uzbekistan development of social production requires for effective methods of market mechanisms that allow for financial regulation of the economy rather than budgeting and subsidies. Budget expenditures in the country should be directed primarily to the vulnerable and socially vulnerable groups of population, focusing on massive and extremely serious health care costs.

In this research, we put follows hypotheses:

H1. The development of the private healthcare market will lead to a reduction in budget expenditures on the healthcare system.

Worldwide studies have shown that although health of the nation is not directly linked to the cost of health care, it is widely recognized that the health sector has to spend 6 to 10 per cent of GDP (see Appendix 1) to cover its main task. We do not believe that this qualifier is inadequate. Of course, this process should be stopped and the rational use of local budget spending should be developed. The focus should be on promoting a healthy lifestyle, with particular focus on budgeting, preventing the patient, and preventing the patient from taking measures to maintain a healthy environment. In addition, the provision of health care and sanitation services to the population on a fee-based basis and the creation of a compulsory health insurance scheme, and thus financing healthcare costs, will lead to more targeted use of the resources allocated to this area. This will enable the government to increase the effectiveness of funds allocated to healthcare facilities.

H2: The development of the health insurance market in the public health system reduces budgetary spending on the healthcare system.

All our calculations were made by SPSS statistical program. The results of the statistical analysis SPSS we show the following:

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	0,995 ^a	0,990	0,988	244,46	0,990	485,300	2	10	0,000

a. Predictors: (Constant), MS, BCHS

b. Dependent Variable: BC

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	58005444,388	2	29002722,194	485,300	0,000 ^b
Residual	597624,493	10	59762,449		
Total	58603068,880	12			

a. Dependent Variable: BC

b. Predictors: (Constant), MS, BCHS

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	-275,132	237,922		-1,156	0,274					
BCHS	3,379	0,378	0,693	8,936	0,000	0,986	0,943	0,285	0,169	5,901
MS	0,389	0,094	0,321	4,141	0,002	0,953	0,795	0,132	0,169	5,901

a. Dependent Variable: BC

Regression is the function created based on the analysis:

$$BC = -275,132 + 3,379 * BCHS + 0,389MS;$$

It is clear that the hypothesis that was introduced by us was not based on reliable coefficients $R^2 = 0.988$. Reason $x_{(BCHS)} = 3,379$; $x_{(MS)} = 0,389$, indicating positive results. According to the results of the analysis, the development of the market of medical services in a single unit increases the budgetary expenditures by 3,379 units, and the increase in the share of insurance payments increases the budget expenses of medical services by 0,389 units. The results of the above statistical analysis show that Uzbekistan needs to develop effective market mechanisms for reducing budget spending in the healthcare system.

RECOMMENDATIONS

Recommendations on implementation of compulsory medical insurance in the economy of Uzbekistan are:

The total expenditure on health in Uzbekistan in accordance with the recommendations of the World Health Organization should be at least 6-7% of GDP, which is up to 2017 at 12 percent. Expenditure on health care for 2017 amounted to 6,8 trillion sums from the state budget and 0.5 trillion sums from the Fund for Reconstruction and Development, which is 3.1% of GDP.

The most important factor affecting the effectiveness of the introduction of the mandatory health insurance system is the sources of the formation of funds. Analysis of world experience shows that the most effective mechanism for compulsory health insurance is in countries where the formation of funds is evenly distributed between the employer and the employee. So, if the employee and the employer participate in the formation of 50% of the funds from the total amount of insurance premiums, then these resources will be used with the greatest impact. At the same time for private entrepreneurs, whose share in Uzbekistan is a significant number, it is expedient to establish a fixed amount of deductions for medical

insurance. It should also provide for partial reimbursement of funds expended for treatment at the expense of the patients themselves (from 10% to 20% of costs when referring to a doctor and treatment, depending on the type of insurance package). This measure will prevent the abuse of the insurance policy of compulsory health insurance by certain "imaginary" patients, which can significantly increase government spending on health.

Currently, the employer pays a single social payment, which is transferred to the Pension Fund, the Employment Assistance Fund and the Council of Trade Unions. An employee from the total amount of accrued wages pays a tax on personal income sent to the state budget and an individual accumulative pension account (1%) and the mandatory contribution of individuals transferred to the extrabudgetary Pension Fund (8%). An insignificant part of the funds paid by the employee and employer from the wage fund is sent to the State budget (mainly due to the personal income tax).

The total amount of the compulsory insurance contribution of an individual is transferred to the Pension Fund. In this connection, it is advisable to transfer a part of the individual income tax to the individual savings account of compulsory medical insurance, which must be created for each employed employee. In addition, the employer's contribution should be transferred to this account. The amount of the assessed contribution is advisable to add to the sum of a single social payment.

The use of this approach will allow to strengthen the targeted orientation of investments in the sphere of medical services, increase the employee's interest in its growth, and will also stimulate the growth of incentives to reduce the scope of "non-formal" settlements between the employee and the employer ("envelope" salaries). After reaching a certain amount of funds in this account, the employee will acquire the right to purchase the second and subsequent levels of compulsory health insurance (a better and expanded list of medical services).

In this case, the tax burden between the employee and the employer on the labor remuneration fund is distributed as follows. For employees who receive income of up to 5 minimal salaries, the employer makes tax payments of up to 65%, and the employee - up to 35% of all tax payments calculated from the wage fund. At the same time, wage growth leads to an increase in the share of the employee in the total amount of tax payments paid from the wage fund. Employees who receive wages in the amount of more than 40 minimal salaries pay 52.5%. while the employer carries out 47.5% of all tax and compulsory payments calculated from the wage fund. In order to create an effective mechanism for providing medical services within the framework of compulsory medical insurance, it becomes necessary to create several insurance packages (policies) for employees in the economy (in three groups, depending on the amount of the insurance monthly contribution).

The introduction of the mandatory health insurance system should reduce the budget expenditures for the maintenance of health facilities. Assuming that the state assumes full primary health care, i. out-patient, then 2.7 trillion sums are being allocated from the state budget, currently directed to hospitals. Taking into account these costs, due to compulsory medical insurance it will be necessary to cover 8 trillion sums.

Provided that the burden is equally shared between the employer and the employee, half of this amount must be refunded from the employee's money, the other half from the employer's means. The tax on incomes of physical persons makes up on the results of 2015 3.8 trillion sums. In this case, this amount is formed by more than 5 million people out of 13 million employees. With the current tax burden, potential income from personal income tax can be

about 10 billion sums. If these funds are received, the prerequisites for the introduction of compulsory health insurance will be created. At the same time, special attention should be paid to the creation of jobs in the official sphere of the economy, which will be the main source of funding for compulsory health insurance

With the possible introduction of a mandatory health insurance system in Uzbekistan, it is necessary to envisage the implementation of basic measures. It is advisable for the government to determine the range of basic services for which free medical care is guaranteed for all employees. It is also necessary to determine the full range of medical services that patients can receive for free or at a reduced price, and to identify the circumstances of their provision. At the same time, it is necessary to continue the reform of the system of management and financing of public medical institutions. In particular, it is very important to expand the independence of such organizations in making decisions on the commercialization of their activities, the use of financial resources, the implementation of personnel policy, etc.

It is necessary to determine the strategy for introducing mandatory health insurance. Public financing of basic medical services in the form of primary examination (outpatient treatment), "first aid" and services for socially vulnerable layers should be provided free of charge. Other services can be divided as follows: the amount of treatment from 10 to 20% is covered by the patient (user of the policy), and the remaining expenses are distributed equally between the employer and the employee when buying the insurance policy. At the same time, it is necessary to determine the list of diseases that will be covered from the state budget.

Also, in parallel, it is necessary to develop voluntary insurance, including when paying for government services, which are on a paid basis. It is necessary to develop a mechanism for increasing competition for the provision of medical services by changing the funding mechanism. The consumer himself must choose the medical institution in which he wants to receive services (public or private). Private clinics that will be eligible for funding can be presented with additional requirements: for example, at least three years of work in the market, the availability of certain staff and services. Hospitals can receive funding depending on the number of successfully treated cases.

CONCLUSION

Summary, in the implementation of the proposed health insurance as a mechanism for effective market access to health services in Uzbekistan, one should pay attention to the following:

1. To adopt a special law on medical insurance, which defines the basic requirements to the health insurance system, the rights and obligations of the parties, the conditions for the implementation of health insurance and provides general definitions;
2. Exemption from taxation of part of the income of physical persons for health insurance;
3. Implementation of standards of medical services for diagnostics and treatment of the most common diseases;
4. Customer self-understanding, access to diagnostics and treatment methods, and electrification serve to open access to these services;
5. Ensuring that health insurance is important and useful, including promoting advertising;
6. Taking measures to obtain insurance statistics for insurance companies;
7. Promote the development of health insurance infrastructure.

8. The state should clearly define a set of basic services guaranteed by free medical care.
9. Public health care financing and financing systems need to be reformed. In particular, it is important to increase the independence of these organizations in decision-making on commercialization, financial resources use, and personnel policy.
10. In order to develop and improve the quality of competition in the market of medical services, it is necessary to provide non-governmental healthcare facilities with budgetary support for basic services, as well as to select clients' health facilities (with adequate redistribution of budget funds).
11. Apply a strategy for introducing long-term health insurance.

Implementation of the above measures will promote the development of health insurance.

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APPENDIX-1.

Table 2. Health expenditure as a share of GDP, 2016 (or nearest year)

Percentage	Total	Government/Compulsory	Voluntary/Out-of-pocket
United States	17,2	8,5	8,8
Switzerland	12,4	7,9	4,5
Germany	11,3	9,5	1,7
Sweden	11,0	9,2	1,8
France	11,0	8,7	2,3
Japan	10,9	9,1	1,7
Canada	10,6	7,4	3,1
Netherlands	10,5	8,5	2,0
Norway	10,5	8,9	1,5
Belgium	10,4	8,0	2,4
Denmark	10,4	8,7	1,7
Austria	10,4	7,8	2,5
United Kingdom	9,7	7,7	2,0
Australia ¹	9,6	6,5	3,1
Finland	9,3	7,0	2,4
New Zealand	9,2	7,4	1,8
Costa Rica ²	9,1	6,6	2,5
OECD35	9,0	6,5	2,5
Spain	9,0	6,3	2,6
Portugal	8,9	5,9	3,0
Italy	8,9	6,7	2,2
South Africa ²	8,8	4,2	4,6
Iceland ²	8,6	7,1	1,5
Slovenia	8,6	6,1	2,4
Chile	8,5	5,1	3,3
Greece	8,3	4,8	3,5
Ireland	7,8	5,5	2,3
Korea	7,7	4,3	3,3
Hungary	7,6	5,2	2,4
Israel ²	7,4	4,5	2,9
Czech Republic	7,3	6,0	1,3
Colombia ²	7,2	5,4	1,8
Slovak Republic	6,9	5,5	1,4
Estonia	6,7	5,1	1,6

Lithuania	6,5	4,3	2,1
Poland	6,4	4,4	2,0
Luxembourg	6,3	5,3	1,1
Brazil	6,2	3,4	2,8
Mexico	5,8	3,0	2,8
Latvia	5,7	3,2	2,5
Russian Federation	5,6	3,4	2,2
China ²	5,5	3,1	2,4
India ²	4,8	1,4	3,3
Turkey	4,3	3,4	0,9
Indonesia ²	2,8	1,1	1,8

Note: Expenditure excludes investments, unless otherwise stated.

1. Australian expenditure estimates exclude all expenditure for residential aged care facilities in welfare (social) services.

2. Includes investments.

Source: OECD Health Statistics 2017, WHO Global Health Expenditure Database.