

Role of the Public Health Service in Formation of Human Capital in Azerbaijan

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Abstract: Public health service is one of the most important factors in formation of human capital, which is the most significant indicator of economic development. Because, development of science and education, as well as increase in labor productivity largely depend on formation of physically and mentally healthy population, which, in its turn, depend on development of public health service, quality of services in this sphere and increase in economic efficiency of public spending. From this viewpoint, issues as role of the public health service in formation of healthy population, development of public health system, funding of public health system, health care costs of the state and population, importance of health insurance and etc. have been analyzed and evaluated in the article.

Key words: Human capital • Human resources • Labor productivity • Financing • Healthcare system • Financing of the healthcare system • Medical insurance • Mandatory medical insurance • Voluntary medical insurance

INTRODUCTION

Development is based on quality factor of human capital. That is why developed countries direct large investment amounts to formation of human capital, which enable them to gain advantage in competition in many spheres, to form national intellectual layer in the society and to increase their income using their labor, as well as to improve quality of living of their population. It is not accidental at all, that human capital and knowledge has become the most important factor of production in the 21st century. Because, other factors of production, improvement in technology, development of production and increase in productivity are based on knowledge [1].

There are several factors influencing formation of human capital. Until the 19th century and in it education and training were emphasized as the only factors playing role in development of human capital. However, today these factors number as many as tens. It should be mentioned that, the World Bank includes science, education, culture and art, health care and information provision in the factors that form human capital, among which health care plays a very important role, as, verily this system is the most important for formation of mentally

and physically healthy generation. Lack of public health service may cause many difficulties such as facing the difficulty of employment of physically unhealthy people or education of mentally unhealthy children and their further labor activity [2].

It should be mentioned that results of numerous researches conducted in many countries indicate that life conditions and mode of life, environment, genetics and health care are the most important factors influencing human life (respectively, 48-50%, 20-22%, 18-20% and 8-14%). In the Summit of Millennium initiated by the UN in September, 2000, where representatives of 183 peoples and 147 states participated, health care service has been indicated as important as the first factor for poverty reduction and human development in the world. 3 of 8 development purposes and 6 of 18 targets in this direction are connected with development of health care system. In addition, among 48 indicators reflected in these targets 18 are connected with health care [3].

Current Situation of Health Care System in Azerbaijan:

If to pay attention to the base of indicators (number of doctors, number of health care workers, number of hospitals, number of beds in hospitals and etc.)

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Table 1: Main indicators of public healthcare system (for end of year)

	1991	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012
Number of all doctors, thsnd.	27,5	28,8	28,5	30,1	30,6	30,8	32,4	32,5	32,8	33,1	32,3
Per 10.000 people	38,7	38,3	36,0	36,1	36,3	36,0	37,4	37,0	36,9	36,8	35,0
Number of health care workers, thsnd.	68,0	68,8	60,6	59,7	60,8	61,6	62,2	62,5	62,9	60,1	57,5
Per 10.000 people	95,8	91,4	76,7	71,7	72,1	72,1	71,9	71,2	70,9	66,8	62,3
Number of hospitals	731	773	739	732	729	726	748	752	756	516	539
Number of beds in hospitals, thsnd.	70,9	74,4	71,0	68,4	68,9	68,4	68,1	67,8	67,4	45,8	43,2
Per 10.000 people	99,9	98,9	89,7	82,1	81,7	80,0	78,6	77,3	76,0	50,9	46,8

Source: *www. state.gov.az*

Table 2: Results of treatments in hospitals and use of beds

	2000	2005	2007	2008	2009	2010	2011	2012
Number of admitted patients, thsnd.	385,2	463,2	529,8	557,5	550,1	614,5	610,4	615,2
Per 10.000 people	48,4	55,3	61,6	63,9	62,3	68,8	67,4	67,0
Leaving patients, thsnd.	381,1	458,4	524,8	551,6	545,9	607,1	604,4	611,2
Deceased patients, thsnd.	3,7	4,2	4,0	4,1	3,9	4,0	4,5	4,6
Average number of days patients spent in bed	18	15	14	13	13	13	12	11
Average number of days beds used in hospitals	104	111	122	122	117	187	201	176

Source: *www. state.gov.az*

that characterizes health care system, it becomes obvious that some improvement has been made in this sphere in last decades. First of all, material-technical basis of health care facilities has been strengthened and reforms have been realized in this sphere, which have positively influenced on number of health care facilities; in 2012 there were 539 hospitals (republic, city, regional, village hospitals, specialized clinics, training hospitals and private hospitals) and 1725 out-patient hospitals and clinics in Azerbaijan. Number of beds, however [4], has decreased from 71.000 to 43.200. Decrease in the number of health care facilities and in number of beds in hospitals is the result of realization of centralization in this sphere (Table 1).

In 2012 32.300 doctors and 57.500 health care workers worked in health care facilities and their number for 10.000 people was 35.0 and 62.3, respectively. It should be mentioned that according to the World Health Organization, 28 doctors for 10.000 people is a quite satisfactory indicator. In the former USSR this number was as high as 42. For comparison, we can apply number of doctors in the two important countries of the CIS-Russia: 51, Ukraine 49. In 2012, number of health care workers for 10.000 people in Russia was 107, while in Ukraine, Kazakhstan and Azerbaijan it was relatively or essentially lower-101, 97 and 63, respectively. In number of beds, in the same year, Belarus was the leader (113), followed by Russia (94) and Ukraine (91), while Azerbaijan, in comparison to the abovementioned states,

had a significant gap in this indicator, having only 47.0 beds for 10.000 people [5].

According to statistic results of treatment of patients, in comparison to 2000, admission of patients grew in 2012 by 1.6 times, while number of deceased patients increased by 1.2 times. In the same period, average number of days in bed decreased from 18 to 12. In addition, average number of days when beds used in hospital was 176. In general, use coefficient of beds in hospitals of Azerbaijan is thrice lower than that of EU countries (1, p.22).

In last years, more accurately, in the period of 2005-2012 frequency of diseases (including all diseases) has increased by 12.2%. Diseases of the endocrine system and metabolism, disorders of the immune system, diseases of blood and blood-forming organs have specially showed remarkable increases. Number of patients recorded in health care facilities because of alcoholism, addiction and toxicomania has increased, too [6].

On the contrary, number of patients with tuberculosis has decreased in last several years. Thus, in comparison to 2000, number of patients recorded in health care facilities specialized on tuberculosis has decreased from 14.274 to 11.383 in 2011. So, number of patients with tuberculosis per 10.000 people has also decreased from 178.6 to 123.2.

Indicators of maternal mortality also show decreasing numbers. In 2000 it was 37.6 (per 100.000 people), while in 2005 it dropped to 28.9 and in by 2012 it decreased by twice, being only 14.9.

Infant mortality indicators decreased during the period of 2000-2005, too. Thus, infant mortality in 2000 1896 in total (16.4 per 1000 live births), while in 2005 it was 1580 in total, being only 12.7 per 1000 live births. In 2012 the same indicator increased to 1884, however, infant mortality per 1000 live births still decreased and was 10.8.

Together with development of health care system, non-governmental health care system has also remarkably developed in recent years. Today, there are up to 50 private medical centers in Azerbaijan, which present high-level and multi-branched services in this sphere. In addition, 22 foreign and joint health care facilities operate in Azerbaijan, 73% of which represent far foreign countries [7].

Funding of Health Care: Development of health care system and increase in quality of medical services directly depend on their funding. Today, funding sources of health care are divided as below:

- Budget based funding;
- Medical insurance;
- Payments by population.

According to the World Health Organization, funding of health care has to have the ratio below:

- Budget based-60%;
- Medical insurance-30%;
- Paid services-10%.

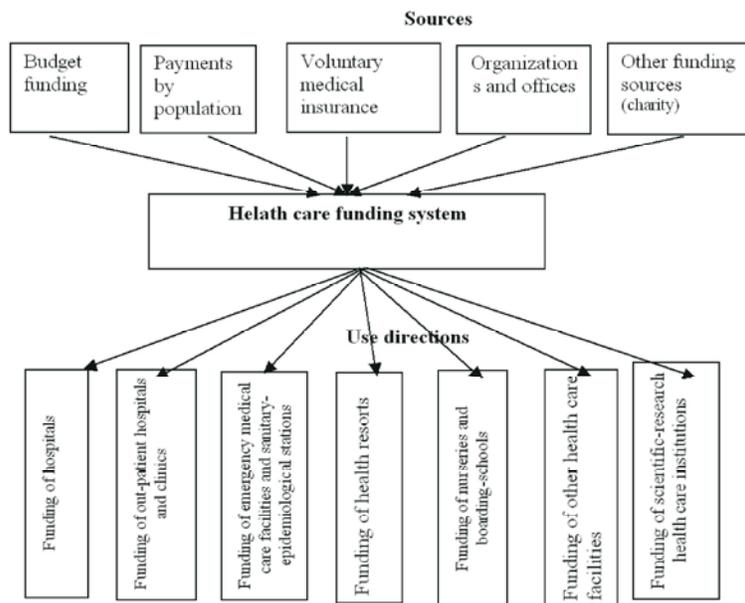
In Great Britain, Greece, Spain, Poland and Portugal health care system funding is realized basically from the state budget, while in Bulgaria, Denmark, Norway, Finland, Sweden and Italy the main funding source of health care is based on regional and local taxes. France provides 76.9% of all health care costs from the state budget. Health care funding sources in Azerbaijan have been shown in the scheme 1.

As seen in the scheme, funding sources of the health care system in Azerbaijan include budget funds, payments by population, voluntary health insurance payments, funds of organizations and offices and other sources (charity). Compulsory health insurance doesn't exist in Azerbaijan, so it is not reflected in funding of the health care system.

The table below shows GDP of recent years and financial funds spent for health care (Table 3).

As seen in the table, budget funding of health care costs has increased in recent years. For example, in comparison to 2000, budget funding of health care costs increased 17.0 times by 2012 and was 775.71 \$USD. Medical insurance expenditures in 2012 were 51.9 USD \$, while payments of population were 1314.8 \$USD. In 2012, 36.2% of all health care costs allocated from the state budget and 61.4% of these expenditures were paid by population. Only 2.4% of health care costs were medical insurance payments.

In general, according to the World Bank, health care costs in Azerbaijan are funded from these sources: 1.8-2%-foreign aids, 75-80%-official and non-official

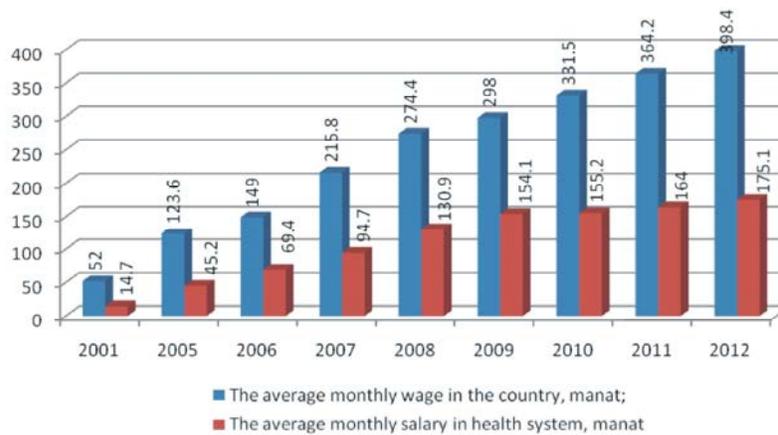


Scheme 1: Health care funding sources and use directions in Azerbaijan

Table 3: Expenditures allocated for health care

	GDP, million\$USD	State health care expenditures million \$USD	Payments by population, million \$USD	Medical insurance payments, million \$USD	Total expenditures allocated for health care, million \$USD	Ration of health care expenditures to GDP, %
2000	5272,80	45,71	-	-	45,71	0,87
2001	5707,72	45,10	63,2	-	108,34	1,90
2002	6235,86	46,08	153,1	-	199,14	3,19
2003	7276,01	56,30	152,9	-	209,22	2,88
2004	8680,37	74,79	165,0	-	239,75	2,76
2005	13238,71	121,89	195,3	-	317,16	2,40
2006	20982,99	181,33	302,6	-	483,88	2,31
2007	33050,34	299,73	380,6	-	680,34	2,06
2008	48852,48	421,37	467,7	13,6	902,68	1,85
2009	44297,00	500,68	591,0	18,9	1110,53	2,51
2010	52909,29	534,76	735,5	20,9	1291,19	2,44
2011	65951,63	624,79	954,2	24,3	1603,36	2,43
2012	68730,91	775,71	1314,8	51,9	2142,44	3,12

Source: C?dv?! www. state.gov.az v? www.maliyye.gov.az(compiled by the authors by the use of the sites).



Scheme 2: Average monthly salaries of health care workers (in manat)

payments by population, 5%-compulsory and voluntary medical insurance payments and 20-25%-allocations from the state budget (2). It should be mentioned that special weight of non-official payments by population for medical services is quite high. This is traditionally associated with low wages in the health care system. Thus, in 2012 average monthly wage of health care workers was only 175.1 AZN, which lower than the national nominal monthly salary by 2.2 times (3, 147).

For comparison, average monthly salary of medical doctors in the USA is 14.5 thousand \$USD, while in Great Britain it is 7 thousand _EU. It is quite high in Israel, Netherlands, France, Germany, Italy, Kuwait and Japan-7.5 thousand \$USD, 6.3 \$USD, 6 thousand _EU, 5.5 thousand _EU, 5.2 thousand _EU, 2.1 thousand dinars and 5.5 \$USD, respectively (4).

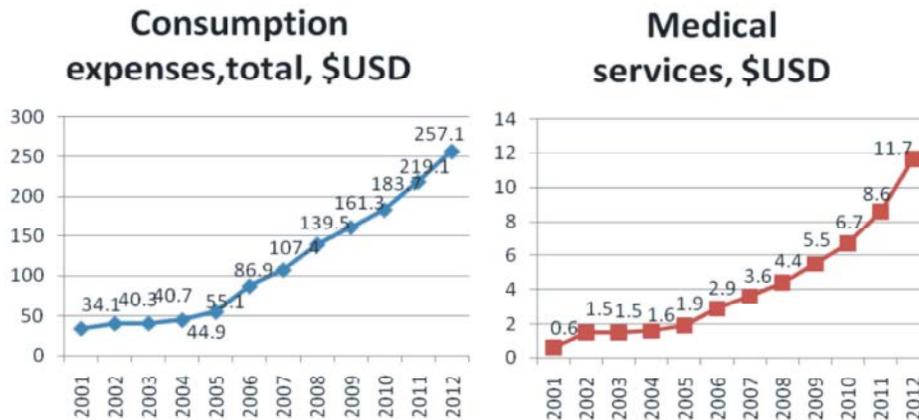
Taking into consideration all these, Article 7.1 under “Health of Population and main duties in the sphere of health care” of the Development Concept named “Azerbaijan 2020: View of the Future” emphasizes

importance of measures to be taken for implementation of the principle that suggests performance evaluation on the basis of final results.

It should be mentioned that, according to the World Health Organization, less than 5% ratio of health spending to GDP indicates existence of serious problems in the sphere of health care services. Analyses conducted show that this indicator is still lower than the minimum (3.12%) and that it was higher in 2002 (3.19%) than today. In developed countries ratio of health care costs in GDP is quite high-in France 9.8%, in Germany 10.4%, in Italy 7.7% and in Great Britain 6.9% (5).

According to statistics, population of developing countries spend 12% of their income for health care services, while in developed countries this indicator is as high as 25%. Citizens of Azerbaijan, however, spend of only 3.9% of their total income for health care services.

According to results of 2012, within the structure of consumption expenditures by quintiles, those belonging to the 5th quintile (the richest) spent for health care



Scheme 2: Consumption and health care costs per capita, (\$USD for 2001-2012)

Source: http://www.stat.gov.az/source/budget_households/

Table 3: Special weight of budget allocations to first medical aid services, (%)

Years	2000	2005	2006	2007	2008	2011	2012
Budget allocations to health care, million AZN	40.9	115.3	162.0	257.2	346.3	493.4	609.4
Budget allocations to local first medical-sanitary aid services million AZN	-	-	27852632	45695493	52760929	88840959	87889706
Special weight of allocations to local medical-sanitary aid services in national health care allocations, %	-	-	18.0	18.0	16.0	18.0	14.4

Source: <http://www.stat.gov.az/>

services 4 times more in comparison those in the 1st quintile (the poorest) (6). This is the indicator of the fact that social-financial situation has direct influence on amount of expenditure for medical services.

According to statistic data, average health care expenditure per capita in the EU countries in 2002 was 1645 \$USD, while in CIS countries as Russia and Belarus is was only 150 and 93 \$USD, respectively. This indicator was as low as 27 \$USD in Azerbaijan in the same year (7,4).

One of the problems in health care funding is low amount of funds allocated to first medical aid services. Though allocations to this sphere increase yearly, their special weight has decreased. Thus, in 2006 special weight of allocations to first medical aid services were 18%, while in 2012 it was only 14.4% (Table 3).

It should be mentioned that according to the World Health Organization, normal first medical aid services require allocation of 15-20 \$USD per capita. This indicator was only 12 \$USD in Azerbaijan in 2012. Allocations to first medical aid significantly contribute to prevention of complications, which also means decrease in total health care costs. Therefore, amount of allocations to first medical aid has to be increased.

Medical Insurance: Medical insurance is one of the funding sources of the health care system. It has a special role in strengthening social protection of population (specially, of the poor) and essentially contributes to elimination of non-official payments in this sphere. Unfortunately, unlike the voluntary medical insurance system, compulsory medical insurance has not been realized in the Republic. “The Law on Medical Insurance” was adopted in 1999. Besides, according to a Presidential decree of 1999, Azerbaijan Republic Council of Ministers and the Ministry of Finance were instructed to define the compulsory medical insurance system and to prepare of its funding. However, only amounts of this kind of medical insurance were defined so far. In Azerbaijan definite amount is allocated annually for realization of compulsory medical insurance (in 2012 it was 30.1 million AZN), but every year it is returned to the budget due to non-existence of the compulsory medical insurance system. Experience of developed countries shows, that medical insurance has an important role in development of the medical care system and significantly contributes to social protection of population.

Unlike the compulsory medical insurance, voluntary medical insurance is available in Azerbaijan and statistics of recent years show substantial growth in this sphere.

CONCLUSION

Analyses show that there are several problems in regard to funding of health care in Azerbaijan. Division between funding sources of health care significantly differs from that of the World Health Organization. Payments of population have high special weight among funding sources of health care, which causes difficulties in provision of social security of population. Therefore, there is a need for reforms in the public health care system, among which should be:

- Increase in amount of budget allocations to health care;
- Coordination of division of funding sources of health care with division of the World Health Organization;
- Increasing the amount of budget allocations to first medical aid up to 15-20 \$USD per capita;
- Formation of compulsory medical insurance system;
- Elimination of non-official payments in the health care system;
- Increasing the amount of monthly salary of health care workers up to the average monthly salary.

Realization of the above mentioned suggestions will increase the level of healthiness of population and will contribute to reduction of social burden of the state.

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