

REVIEW ARTICLE

NATIONAL HEALTH FINANCING SYSTEMS AGAINST THE BACKDROP OF A GLOBAL PANDEMIC: NEW CHALLENGES AND PROSPECTS

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ABSTRACT

The aim: The purpose of the article is to study the challenges and prospects for the development of national health financing systems against the background of a pandemic.

Materials and methods: Our research consists of two interrelated stages. At the first stage, the central task was to determine the size of the drop in world GDP. In the second part of the study, we focused on the definition of the essence of concession agreements in order to use it in the field of medical care. The key methods used in this study were data analysis, generalization, and comparison.

Conclusions: National health financing systems in the vast majority of the world's countries have experienced unprecedented pressures and problems both in terms of health insurance due to the huge losses of the insurance industry in 2020. In order to improve health care financing systems, it is necessary to update the forms, methods and tools of the insurance market functioning in terms of the health insurance segment, and to introduce new mechanisms for financing the medical sector in the process of combating the spread of coronavirus infection.

KEY WORDS: global pandemic, coronavirus disease, healthcare financing systems, health insurance, concession agreement

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INTRODUCTION

In March 2020, the World Health Organization officially recognized the spread of an infectious disease caused by SARS-CoV-2 as a pandemic, which is characterized by an extremely high level of population damage. The coronavirus pandemic has created an unprecedented global public health emergency and identified existing defects in the medical systems of all nation states, and in underdeveloped countries demonstrated a catastrophic state of health care in terms of ensuring the availability and quality of health care against the background of the lack of an effective health financing system.

The most urgent need to solve problems appeared before the countries, the system of financing the medical industry of which required fundamental transformations even before the start of the pandemic, although absolutely all states, even those that occupy the first places in the ranking of the most developed economies in the world, to one degree or another faced a situation of insufficient the safety margin of the health financing system in the conditions of a sharp increase in the load and a tough struggle.

LITERATURE REVIEW

Given the suddenness of the global pandemic and the speed of its spread, scientific research, which focuses on the socio-economic consequences of the pandemic, and, in particu-

lar, the problems of health financing in nation states, are in their early stages. The basis for determining the directions of medicine financing modernization is the research of global insurance corporations, scientific developments of domestic and foreign scientists regarding models of the health care system in different countries. (scientific works of S. Thomson, M. Litvinenko, K. Bendukidze, I. Kinash, L. Savchuk), as well as the introduction of various forms of public-private partnership, in particular in the field of medicine (works of T. Bondareva, V. Muzhilovsky, A. Martyakova, I. Trikoz, K. Pavlyuk, A. Portnoy, I. Taranenko, N. Chaloy, E. Cherevikov and many others). However, despite the thoroughness of these studies and recognizing the significant contribution of scientists to the solution of these problems, it should be noted that in modern conditions, it is of particular relevance to determine promising vectors of health care financing that are suitable for fairly rapid practical implementation, taking into account the need to overcome the consequences of the coronavirus disease pandemic in all countries of the world.

THE AIM

The primary purpose of the article is to study the challenges and prospects for the development of national health financing systems against the background of a global pandemic.

Table I. Characteristics of pandemics

Pandemic	Year	Pathogen (virus)	Number of infected people	Number of deaths (global estimates)	Mortality rate
Spanish flu	1918 – 1919	A/H1N1	500 million.	50-100 million.	2 – 3
Asian flu	1956 – 1958	A/H2N2	No ratings available	1-4 million.	No data available
Hong Kong flu	1968 – 1969	A/H3N2	No ratings available	1-4 million.	No data available
SARS	2002 – 2003	SARS-CoV	8098	774	9.6
Swine flu	2009 – 2010	H1N1/09	200 million.	From 18,500 (laboratory-confirmed cases according to WHO) to 203,000 (estimated by The Lancet)	0.03
MERS	Since 2012	MERS-CoV	1,917 laboratory-detected cases in 17 countries (WHO data)	677	36
Ebola	2013 – 2016	Ebola, hemorrhagic fever	28616	11310	39.50
Seasonal flu	Annually	Mainly A / H3N2, A / H1N1 and B	340 million - 1 billion	250,000 – 500,000 annually	Each type of flu has its own coefficient
COVID-19	Since 2019	<u>SARS-CoV-2</u>	103,340,145 (as of 31.01.2021)	2,233,577 (as of 31.01.2021)	0.27

Source: formed by the authors based on: [2], [3], [4], [5], [6], [7].

MATERIALS AND METHODS

Our research consists of two interrelated stages. At the first stage, the central task was to determine the size of the drop in world GDP because of the global pandemic and the worldwide losses of the insurance industry caused by the global disasters. This was done in order to figure out the ability of budget financing and health insurance to provide an appropriate level of health care financing as its main sources in all countries worldwide. In the second part of the study, we focused on the definition of the essence of concession agreements in order to use it in the field of medical care. The key methods used in this study were data analysis, generalization, and comparison. Data synthesis and analysis were key elements of the additional value of the study, and helped to identify the main modernization vectors of national health care financing systems against the backdrop of the global pandemic.

REVIEW AND DISCUSSION

Of course, pandemics of various diseases are not a new phenomenon in the history of mankind (Table I). But it should be noted that it is in the context of globalization that the socio-economic consequences of epidemic processes in individual regions are very quickly transformed into global phenomena of an extremely negative nature, which are unfolding on a planetary scale.

Thus, according to experts of the World Bank, pandemics today can be a real shock to the world economy: a serious pandemic can cause economic losses of almost 5% of world

GDP, or more than 3 trillion US dollars, while losses from a “weak” influenza pandemic (like the H1N1 virus of 2009) can cost about 0.5% of world GDP [1].

In the context of a pandemic, the health systems of national states have demonstrated a desire to increase significantly the level of endurance, operating capability, stress-resistance, the ability to instantly make management decisions and use forceful decisions of state authorities. At the same time, medicine itself also strives for adaptability, flexibility and responsiveness to such changes.

The pandemic of the new coronavirus primarily directly affects the sphere of public health, and at the same time has become a large-scale challenge to the normal functioning of all sectors of life of any world power. The forced introduction of quarantine measures increases the damage in business activity, negatively affects the financial system, social production and etc. And the process of reformatting international relations within the supranational political and economic associations of individual states in the process of concluding contracts for the supply of a global public good - vaccines that have a proven high level of effectiveness, generally deserves a separate study.

In addition to focusing on the medical field, governments around the world are also forced to devote significant budgetary resources to confronting the dangers of rising unemployment, poverty and social differentiation. It is precisely because of the multi-vector budgetary policy that no nation state, even those that occupy the first places in the rankings of countries with the largest GDP per capita, can take on such a responsibility as to fully provide their

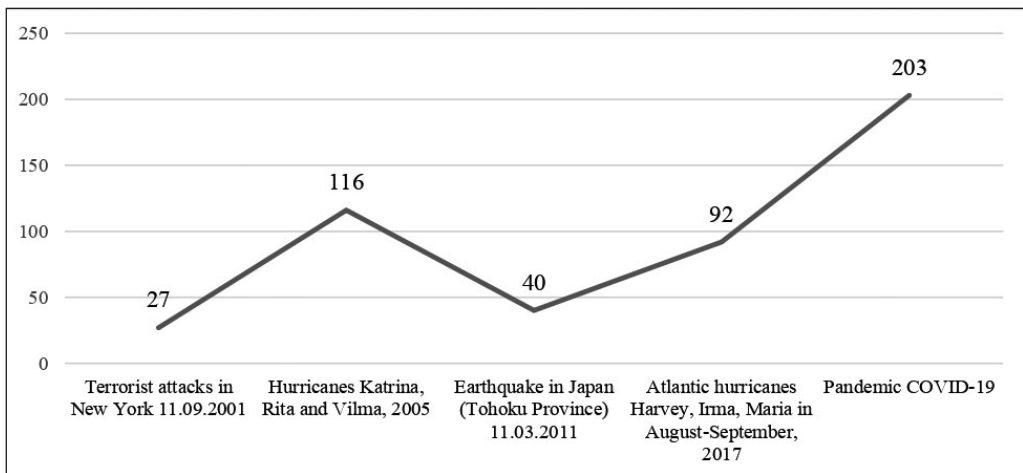


Fig. 1. Global losses of the insurance industry due to global disasters (USD billion)
Source: formed by authors on the basis of [10].

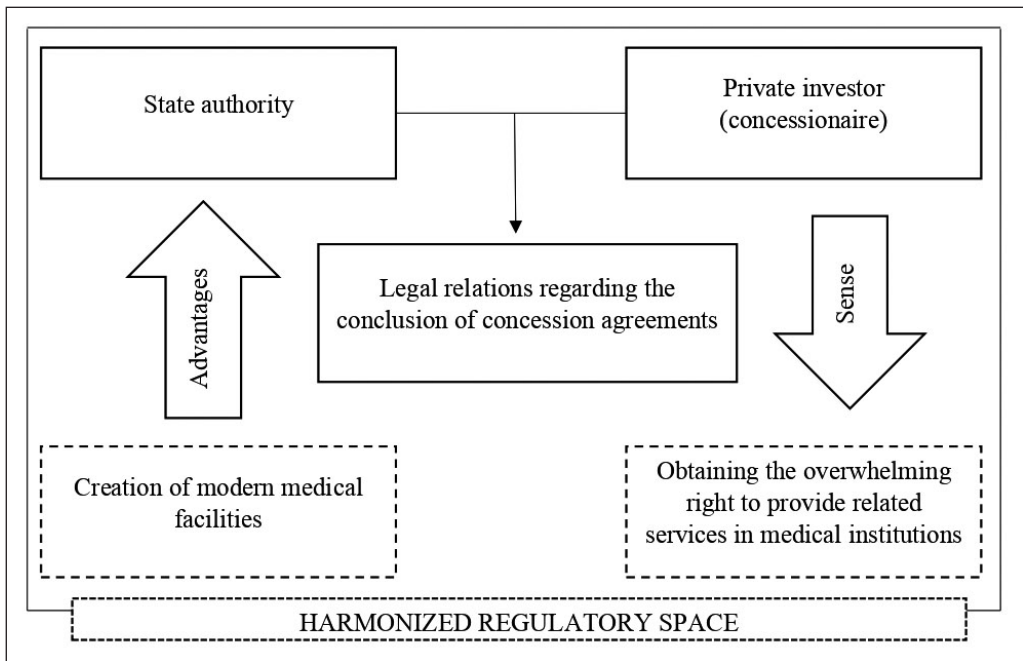


Fig. 2. Structural and logical scheme of interaction between public authorities and private investors in the process of implementing concession agreements in the medical field.
Source: formed by authors.

own citizens with free medical services.

The normative documents of the World Health Organization (WHO) define the following main sources of financing for medical services [8]:

- taxpayer funds (budget financing);
- voluntary health insurance of the population;
- employers' voluntary insurance programs (private sector spending);
- funds from donors or non-governmental organizations;
- direct expenses of individuals or households.

Models based solely on budget financing do not provide a reliable foundation for the dynamic development of national health systems in accordance with modern challenges and threats. It is absolutely clear that in any country the complex of medical guarantees in the absence of a health insurance system simply does not work.

The experience of the leading countries of the world shows that health insurance is the source of financing for the healthcare industry, which makes it possible to reduce the burden on the state and local budgets, as well as to create conditions for the most complete satisfaction of

the needs of the population in affordable and high-quality medical care. It is also necessary to increase the flow of funds to the voluntary health insurance system, intensify the interest of medical institutions, employers and citizens in it by creating an optimal unified system of classification and pricing for medical services [9].

Medicine in modern conditions should mainly be focused on the ability to anticipate the likelihood of the development of certain processes, which, in turn, will improve the quality of medical services and create transparent conditions for the functioning of the health system. In modern civil society, the future belongs to high-quality insurance medicine.

At the same time, it should be noted that the coronavirus pandemic has become a difficult test for national health insurance systems (Figure 1).

According to information published by the leader of the global insurance industry, Lloyd's Corporation, the losses of insurers are now very high and will increase in the future.

The situation in the insurance industry is extremely unusual. Experts note that the amount of direct losses, which

consists of payments under health insurance contracts, life insurance, as well as from payments of insurance benefits in connection with the cancellation of corporate events due to the shutdown of business activities, etc., is an unprecedented amount of \$ 107 billion. At the same time, losses from a decrease in the volume of investment resources due to a decrease in the value of assets are estimated at \$ 96 billion. In general, these amounts represent the largest global losses in the history of the insurance business [11].

Currently, there are three main types of health care financing: state (budget), social insurance, and private health insurance. Of course, in practice, pure forms do not exist either in nature or in society. Therefore, the financing of health care is usually carried out in a mixed form. However, depending on which form of financing is dominant, the health care system is divided into state (England, Ireland, Italy, Scotland), with compulsory health insurance (Austria, Belgium, Netherlands, Germany, Sweden, Japan) and mixed (budgetary insurance) (USA), in which about 90% of the country's population use the services of private insurance companies [12].

There are such circumstances as: the limited budgetary resources in the overwhelming majority of national states, the lack of prospects for increasing financing of health care in developed countries, which are forced to overcome the entire range of socio-economic consequences of the pandemic, or in general, the critical level of underfunding of the medical sector in developing countries, the general failure of national health insurance systems due to unprecedented losses in the history of the insurance business. These abovementioned circumstances jeopardize the possibility of providing medical guarantees in any country, especially in the event of adverse events, such as: simultaneous vaccination of the population of a large number of countries in order to form herd immunity, constant mutation of the virus with even more severe consequences for health, insufficient level of effectiveness of the organizational measures of national states in the fight against the pandemic.

In today's world, characterized by the need for additional spending of budgetary funds on measures to overcome the socio-economic consequences of the pandemic, the budgetary system of any country is experiencing an additional burden, because budgets at all levels are becoming more and more limited, and therefore budgetary resources are not enough to finance all public goods. At the same time, it should be noted that if the state assumes the vast majority of responsibility for the health of the nation, employers and citizens themselves stop caring about it. That is why the most effective in modern conditions are health financing systems based on mixed budgetary and insurance models.

Therefore, this gives us reason to believe that in the modern environment, the modernization of the health care financing system at the level of each state should take place in two main directions: on the one hand, this is the development and support of a solvent and financially stable health insurance market, which should ensure the provision of a full complex medical services in accordance with urgent needs. The necessary components of this

should be the development of new insurance products with differentiation of insurance programs depending on individual choice; improvement of actuarial calculations based on statistical information on predicting the course of the pandemic; periodic improvements in the terms of insurance in the event of adverse events (in particular, an increase in insured amounts and a change in the terms of payments); organizational modernization of support and settlement of insurance claims etc. A huge role in these processes should be assigned to national authorities that perform the functions of the financial market regulator.

Another key promising direction for reformatting national health financing systems should be the introduction of innovative financial mechanisms that can create a foundation for a sufficient level of resource provision of the health care sector in the face of modern challenges by overcoming a number of chronic problematic issues inherent in the health sector, especially in developing countries.

Among such mechanisms, the most optimal and common in foreign practice is a concession. The economic meaning of the concession is that concession agreements are concluded between public authorities and private investors, according to which medical facilities are temporarily, but for a long time (usually from 10 to 50 years), transferred under the management of business entities. In other words, a private investor, in exchange for the remuneration specified in the agreement, receives the rights related to the use and economic management of the resource provision of the medical service facility on the basis of a concession agreement, which, in accordance with legislative norms, has a long term. An important aspect is the fact that when concluding concession agreements, the object of the contract remains in the ownership of the state (Figure 2).

As Yu.V. Shevchuk notes, the use of various forms of public-private partnership in the field of healthcare is due to the fact that the overall goal of the participants' activities can be both commercial and non-commercial, not related to making a profit. The latter corresponds to the profile of enterprises united with state or municipal health care institutions, which are often non-profit organizations [13].

The main advantage of concession agreements is that they can significantly improve the quality of medical services and achieve a high level of efficiency of budget financing. Concession legal relations are a mutually beneficial and fairly widespread form of partnership in world practice. At the same time, the effective implementation of the mechanisms of concession agreements is possible only if the regulatory documents governing legal relations in the field of public-private partnership are coordinate.

We believe that in modern conditions concession agreements should be used to provide healthcare institutions with medical information registration systems, research equipment, systems for monitoring the condition of patients with coronavirus disease, biological safety equipment, as well as in issues of the reconstruction, modernization and re-equipment of medical institutions and facilities, and in pharmaceutical developments in the field of combating the spread of coronavirus disease and the like.

In particular, the conclusion of concession agreements should create the foundation for supporting specialized and highly specialized branches in medicine, the implementation of recovery and rehabilitation in the provision of spa services to patients who have recovered from coronavirus disease, stimulate relevant research and education (in the preparation of management personnel for the medical field).

CONCLUSIONS

Summarizing the above, the following should be noted. Against the backdrop of the global pandemic, national health financing systems in the vast majority of the world's countries have experienced unprecedented pressures and problems both in terms of health insurance due to the huge losses of the insurance industry in 2020, and in terms of budget financing due to limited budgetary resources and the need for government measures to mitigating the negative consequences of falling GDP. In order to improve health care financing systems, it is necessary, on the one hand, to update the forms, methods and tools of the insurance market functioning in terms of the health insurance segment, and on the other hand, it is necessary to introduce new mechanisms for financing the medical sector in the process of combating the spread of coronavirus infection, among which concession agreements occupy an important place.

The coronavirus pandemic has shaken all countries of the world, but at the same time, the fight against its consequences can give a powerful impetus for a radical improvement in the health care sector due primarily to the investment component, rationalization of budget expenditures, building the foundation for technological equipment and the stable development of national health systems responding to new challenges, expanding the list of alternatives for the patient's choice of medical services and organizations, which in the end should become a guarantee of high quality and accessibility of medical care.

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REVIEW ARTICLE

MODERN ASPECTS OF INTRAUTERINE INFECTION

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ABSTRACT

The aim: To analyze the main types of intrauterine infections(IUI), their routes of transmission and features of the clinical picture, as well as the influence of pathogens on the course of pregnancy.

Materials and methods: Data review of native and foreign literature published over the past 5 years.

Conclusions: Summing up, it should be noted the role of infections in the pathogenesis of pathological conditions that form in the perinatal period. This is evidenced by numerous works on the problem of CBS. The most significant perinatal risk factors for fetal infection have been identified. It is proved that in the development of infectious lesions of the fetus, the severity of the disease, the localization of the pathological process, the rate of implementation, and manifestations of the pathology are an important type of pathogen, the path of penetration of microorganisms from mother to fetus to the immune response. Unfortunately, today the problem of preventing CBS is still far from being solved. However, knowledge of the pathogenesis, quality diagnostic methods, effective prevention, and treatment measures can significantly reduce the frequency of VUI and the severity of their consequences for the child.

KEY WORDS: congenital infections, pregnancy outcomes, newborn

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INTRODUCTION

Infectious pathology remains one of the most important and urgent issues of perinatology due to the high mortality and morbidity of the middle of newborns. But before delving into this issue, you need to understand the terms “infection” and “infectious process”, as well as intrauterine infection and “congenital infection”.

THE AIM

To analyze the main types of intrauterine infections(IUI), their routes of transmission and features of the clinical picture, as well as the influence of pathogens on the course of pregnancy.

MATERIALS AND METHODS

Data review of native and foreign literature published over the past 5 years.

REVIEW AND DISCUSSION

“Infection” is the entry of a microorganism into a macroorganism. This hit did not mean those that allowed detecting the reproduction of the microorganism with the subsequent development of the pathological process. Whereas “infectious process” or “infection” is this dynamic process that is revealed in a macroorganism as a result of

penetration into it a microorganism. Therefore, these concepts are not evaluations. Practitioners need to remember that the term “infection” is more epidemic, and “infectious process” is a cyno-epidemiological term.

Another issue that needs to be addressed is the difference between an intrauterine and a congenital infection, which is also often identified in the publication. Intrauterine infection is an infection of the disease for which any infectious fetus occurs in the ante-natal period. And congenital infection is manifested in utero.

Clinical symptoms of congenital infections, regardless of etiology, are most often intrauterine growth retardation, jaundice, hepatosplenomegaly, exanthema, impaired blood function, and organ. Inclusion in the new technology of combining with certain symptoms the required results of the analysis, assessment, the presence of certain characteristics of diseases that do not allow to decipher clinically. In such cases, you can use the term “TORCH” - syndrome.

What is the history of this syndrome? In 1971, Andre Namias, from a large number of diseases, isolated viral, bacterial and other infections, which with a wide variety of structural and biological properties of the pathogen cause similar clinical manifestations in children. systems.

Under the term “TORCH” - infections refer to congenital infectious diseases, the etiology of which still remains undeciphered. The abbreviation of this term consists of the first letters of the diseases that most often cause intrauterine infection.