



# DEFECTS IN PHARMACEUTICAL ACTIVITY: IMPACT ON THE HEALTH, ECONOMY AND SAFETY OF THE POPULATION

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## ANNOTATION

*The article analyzes the state funds allocated for the development of the pharmaceutical industry, the quality of medical care provided, the indicators of population health and a number of problems hindering the development of the pharmaceutical industry, their impact on the health, economy and safety of the population. Also, proposals have been developed based on the development of the sector.*

**KEYWORDS:** *Pharmaceuticals, pandemics, safety, public health, psychotropic drugs, natural remedies, strategy, monitoring, health insurance.*

## DISCUSSION

The global spread of the coronavirus pandemic caused a global crisis, negatively affecting the economic and social situation in almost all countries. It is observed that the crisis caused by the pandemic differs from other world crises in different aspects, its negative impact on the economy is very high.

In our country, in the current test situation, ensuring that the daily need goods and the necessary food products are adequate, preventing the unreasonable increase in prices, full satisfaction of the need for medicines, economic support of the low-income part of the population are considered one of the urgent tasks.

The losses of the budget of Uzbekistan due to the pandemic are estimated at 4.4 trillion soums and the total cost of the measures taken to support the population, economic sectors and business entities during the pandemic period is 62 593 billion soums (6.13 billion US Dollars) [1]. He also borrowed \$ 1 billion from the Asian Development Bank of Uzbekistan (ADB), the International Monetary Fund (IMF) and the World Bank to fight against coronavirus[2].

Today, the Republican pharmaceutical sector is not able to supply the necessary medical

products and medicines, in particular disposable medical gloves and masks, various antiviral drugs and antibiotics, infusion solutions and other medical items in the necessary volume to combat pandemics.

The fact that the price of antiviral and antipyretic drugs in pharmacies is unreasonably increased several times, causes a lot of distress among the population. These cases require further development of the pharmaceutical industry of the Republic.

Therefore, the rapid development of the pharmaceutical sector, the attraction of foreign investments, the implementation of investment projects of leading foreign companies, the promotion of the creation of innovative pharmaceutical products, the volume of production of local producers and the increase of export potential became one of the pressing issues.

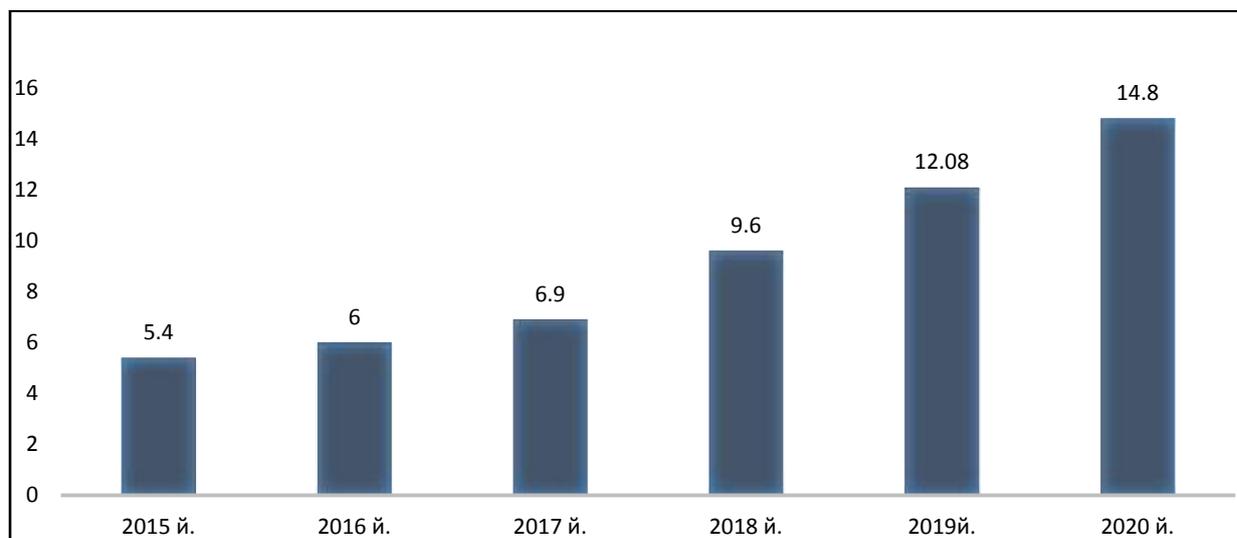
In the framework of the conceptions of the Republic of Uzbekistan on the development of the health care system, support of the healthy lifestyle of the population and increasing the level of physical activity in 2019 – 2025, measures are being taken to ensure the effectiveness, quality of medical care and the possibility of its use by the entire population, introduction of modern achievements



In 2014, more than 520 billion soums of pharmaceutical products were produced in the Republic, in 2018 more than 1.5 trillion products and in 2019 more than 1.73 trillion soums were produced, or growth was an average of 3.3 times. The volume of products produced during this period grew 4 times on average, ready-made medicines amounted to 360 million, medical products more than 490 million conditional units[3].

In recent years, the amount spent on health care products, including pharmaceutical products, has

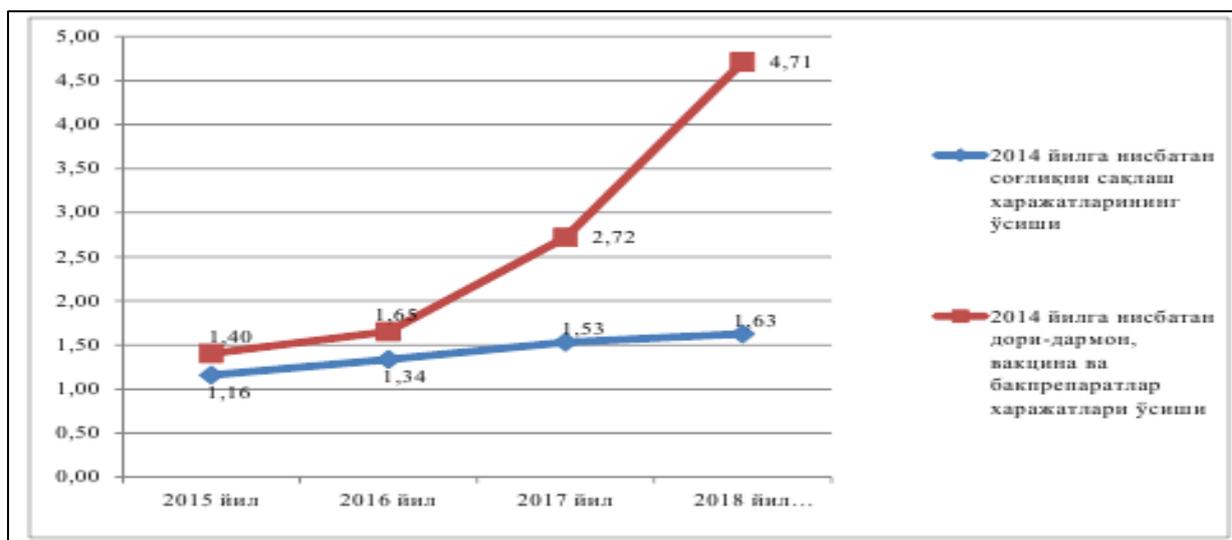
been increasing year by year. In particular, in 2020, the expenditure allocated from the state budget for the health sector amounted to 14.8 trillion sum or to 2019 year (12,08 trillion. the sum) increased by 33.6 %, accounting for 11.3 % of total expenses and 2.3% of GDP. From this, the cost of medicines and fasteners is 1,43 tlrn. sum or made up to 2019% more than 30 years.[4] The dynamics of funds allocated from the state budget can be seen in the picture below (picture 1).



**1-picture. Funds allocated from the state budget to the health sector[5] , trln. sum**

In 2020, the volume of funds allocated to the sector from the state budget increased by 2.74 times compared to 2015. Also, the amount of funds

allocated to health institutions and drug addicts also increased year by year (Figure 2).

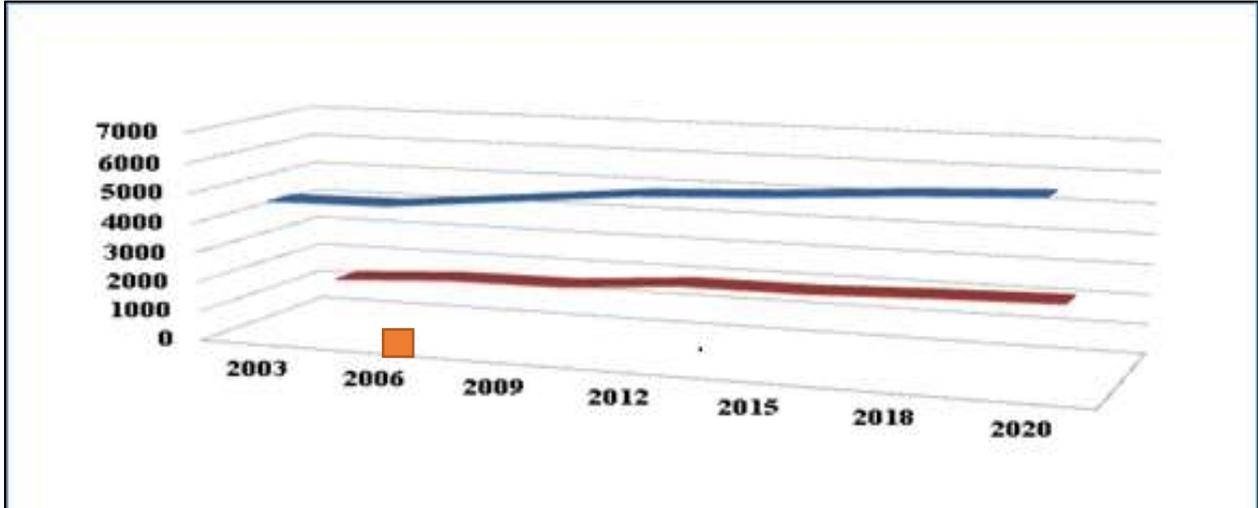


**2-picture. Dynamics of growth of funds allocated to health institutions and drug addicts[6]**



In addition to the increase in spending, the number of primary diseases and general cascade is also growing in the country. From 2003 to the present day, the number of primary diseases in the Republic increased by 1.6 times (from 1290,8 ± 2.05 to 2069.2

± 2.4 per 100000 population), while the total number of diseases increased by 1.3 times (from 4671.6 ± 3.8 to 6062.0 ± 4.1 per 100000 population) [7] (Figure 3).

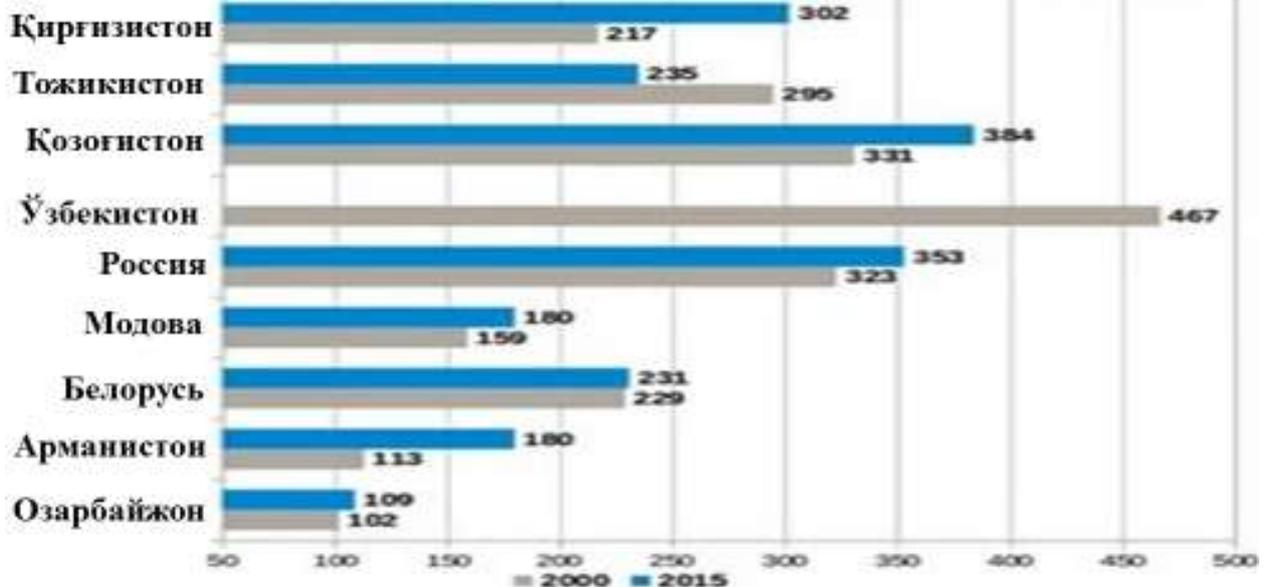


■ - general diseases    ■ - primary diseases

### 3-picture. Dynamics of growth in the number of primary diseases and general diseases

Also, according to the World Health Organization, Uzbekistan occupies one of the leading places in the world in terms of digestive organs and

tuberculosis[8]. Below you can see the situation between the states on the disease of the digestive organs (Figure 4).



### 4-picture. Dynamics of the number of diseases of the digestive organs by countries

From the above-mentioned statistics, we can conclude that the increase in the number of these diseases was influenced by the following factors:

the deterioration of the environmental situation on a global scale, including in Uzbekistan, in recent years;  
Presence of problems with the drying of the Aral Sea;



the degree of contamination of the environment with waste gases (from cars, factories and factories), which are harmful to the human body, etc.

The government pays great attention to the pharmaceutical sector in terms of reducing the number of diseases, treatment and Prevention in the Republic.

Today, 202 local enterprises producing pharmaceutical products operate. Of these, 95 of them specialize in the production of various medicines, 23 of them produce medical equipment, 62 of them produce medical products and 11 of them produce medicines, as well as medical products. 9736 medicines are allowed to be used in medical practice, including 2634 domestic medicines, 1759 medical products (284 of them are local), as well as 1666 medical equipment (78 of them are local) are produced[9].

Every year, the Republic exports more than 5 thousand tons of plant raw materials and medicines produced on its basis in the amount of more than 18 million US dollars. It is noteworthy that by 27 enterprises of domestic production, medicines belonging to 25 pharmaceutical groups and medical products with 10 names are exported to 14 foreign countries, including the United States, Germany, Russia, France and other countries. The volume of products exported by enterprises amounted to 22.1 million in 2019. It amounted to US dollars. 6 new pharmaceutical markets-the markets of South Korea, Turkey, Moldova, Tajikistan, Belarus and Yemen have been mastered[10].

However, on the basis of medicinal plant chamomile, the level and volume of serial production of high-demand medicines is not enough. Most pharmaceutical enterprises are limited to the production of simple formula drugs, anti-inflammatory and diagnostic agents, drugs in the field of toxicology, gynecology, obstetrics, immunology, hematology, oncology and dentistry are practically not produced (less than 10 percent).

Therefore, currently, the drugs produced in the country's pharmaceutical enterprises cover 21 percent of the population's need, 79 percent of medicines are imported from abroad. In 2016, it raised \$ 873 million. In the case of import of drugs worth USD 926,8 million, in 2019 year this figure will increase by 926,8 million. made up of dollars[11].

In 2020, 1491.8 billion was allocated from the state budget for the purchase of medicines and medical products. the sum was allocated (6.5 times compared to 2016 or nearly 36 percent more than in 2019) [12].

The analysis of the current state of the pharmaceutical sector of the Republic of Uzbekistan

shows that the local pharmaceutical network does not adequately satisfy the needs of the population and treatment and profiling institutions for pharmaceutical products.

In particular, the pharmaceutical industry lags behind such sectors of economically developed countries in terms of the types of products being produced. Currently, the share of the pharmaceutical market in the total volume of the domestic pharmaceutical industry in developed foreign countries such as the United States, Germany and France is 75 percent[13].

Today, the demand for natural medicines in the countries of the world has increased by 6-7 percent per year, according to international experts, in 2020 the annual turnover will exceed 35 billion dollars. Countries such as China, India, Canada and the United States have great experience and opportunities in growing wild, keeping medicinal and spice plants, breeding by cultural plantation method. More than a thousand of 12 thousand species of medicinal plants are used in world countries, while in Uzbekistan 112 of 1.2 thousand species of medicinal plants are used in pharmaceutical industry[14].

The lack of adequate Organization for the introduction of international standards in domestic manufacturing enterprises, including the requirements of "Necessary production practice" (GMP), "Necessary pharmaceutical practice" (GVP) and ISO 13485, which regulate the quality and safety of medicines in pharmaceutical enterprises, limits the possibilities for the production of competitively effective and safe pharmaceutical products in the foreign and domestic market.

Despite the reforms carried out in the field of population health, there are a number of problems that hinder the quality of medical care provided, the indicators of population health and the development of the pharmaceutical industry. Specially:

the only strategy for sustainable development of the pharmaceutical sector has not been developed;

there is no systematic monitoring and control over the provision of treatment facilities and population with medicines, parts for medical purposes;

research activities of pharmaceutical network institutions are not at the level of modern demand.

If we analyze the number of pharmacies by population at the crossroads of countries, then experts of the International Pharmaceutical Federation (IPF) note in which state the health system of this state is developed, if a pharmacy with a population of not less than 100 thousand people corresponds. If every 100 thousand inhabitants have more than 40



pharmacies, they consider that there is a defect in the system of public health care [15].

While the increasing number of pharmacies in Uzbekistan provides an opportunity to fully meet the population's need for medicines, on the one hand, on the other hand, creates a basis for the development of a prosperous economy, that is, the volume of production of counterfeit medicines increases, tax evasion cases increase and leads to the enrichment of entrepreneurs in some joints.

Developed foreign countries in the practice of the USA, Germany, Japan, South Korea and other countries, pharmacies operate only in hospitals and clinics. As in Uzbekistan, there are no multi-storey houses, markets, public places, stops and pharmacies in other places.

In European countries, the activity of pharmacies is divided depending on the category of drugs. For example, in Germany, all drugs are divided into three categories: the first category – drugs that are allowed to be freely and everywhere to sell, that is, vitamins that have little effect, cocaine teas and tinctures, healing loy (balms), plasters, zinc, rejuvenating creams, means of dezinfection. To the second category – without prescription, that is, drugs that are sold only in pharmacies without a paper that the doctor will write out (for chronic diseases). When buying these drugs, the patient pays money from his wallet. Drugs of the third category-are sold only by prescription. In Germany, almost all citizens pay the insurer (private or state) the money for drug preparations that can be purchased at the pharmacy on the basis of a doctor's prescription, as medical insurance is provided. The population uses more drugs of the third category. This is due to the fact that the medicine is taken into the insurance account and is treated under the responsibility of the doctor.

Also, Germany does not have a network of pharmacies that belong to a particular concern or person, unlike other countries around the world.

The fact that pharmacies in Uzbekistan are becoming more and more popular can be explained by the following: without prescription sale of drugs; non-compliance of pharmacies with the health authorities; high level of advertising of drug preparations through the media (just like the advertisement of the konfet); increased production of new drug preparations for the treatment of the disease (depending on the low cost); the fact that the volume of drugs entering from abroad, that is, imported (legally or illegally), increases year by year; the population's confidence in various statements about medicines for the treatment of the disease; the fact that some entrepreneurs increase the number of pharmacies for the purpose of enrichment, lobbying, etc.

Some experts associate the increase in pharmacies with an increased incidence of disease types. Such a look cannot be called correct, because for the last 20-25 years the number of diseases has not increased by a hundred times. Even if there is an increase, it is unlikely that this occurred as a result of an increase in the number of drugs.

An increase in the number of pharmacies also leads to an increase in the volume of sales of psychotropic drugs and counterfeit drugs. According to available information, the penetration of psychotropic drugs "lirika", "tramadol" and other precursors into Uzbekistan is carried out on a large business pyramid. The drugs enter from Turkey to Uzbekistan from the border regions of Kazakhstan and Kyrgyzstan through bypass roads. This situation, in turn, has a negative impact on security, public health and the economy.

If we describe security as a system of protection of the vital interests of the individual, society and the state, ensuring equal and independent participation of the state in international relations, ensuring sovereign and progressive development, a system of protection against external and internal risks that threatens the internal stability of the country, it will be worth noting the ongoing coronavirus pandemic, its consequences. Also, the occurrence of various diseases among the population, the increase in the level of poverty as a result of the increase in the funds spent on treatment, the increase in the share of spending allocated from the state budget to the health care system and, in some cases, the increase in dependence on imports of drugs leads to an increase in the

Today, the impact of the increasing volume of pharmaceutical products and the number of pharmacies on the health of the population, the economy and public interest (security) will be explained as follows:

#### Impact on Population Health:

today, there are a lot of cases of non-commercial use of drug preparations (synthetic and semi-synthetic), which adversely affect the body of a person taking them arbitrarily, brain cells, the condition of the liver (chronic hepatitis, cirrhosis) and kidneys, the activity of the gastrointestinal tract;

incorrect diagnosis and improper treatment of the patient by doctors who do not have a special specialty (there is a doctor's diploma, but there is no certificate and practical experience is not enough);

consumed fresh-a new type of medication will not only cure a certain disease in the body, but also harm other organs and reduce the protected level of the immune system of the population (the patient's body will not be able to fight the disease



because of the fact that it receives artificial medicines).

Impact on the economy:

as a result of a decrease in immunity among the population, the expenditure of budgetary funds for the purchase of other types of expensive drugs increases;

the amount of funds allocated to the pharmaceutical industry from the state budget increases, and a large part of the population's income is also spent on medicines for treatment;

the state of deviations of the currency for medicines import is increasing;

as a result of uncontrolled use of medicinal preparations, other diseases also arise, a large amount of money is spent on its prevention and elimination of consequences;

the fact that the information in the advertising information does not correspond to the current situation causes the rightful dignity of consumers, and the drugs purchased through advertising cause harm to the health and material interests of the population.

Impact on safety:

socially, as a result of uncontrolled, that is, resale of drugs, it is irreparable in patients and leads to the development of other diseases that pass from generation to generation;

causes an increase in the level of lobbying and reparation in the production of medicinal products and in the treatment system of patients;

a further increase in the volume of sales of drugs with psychotropic substances in the composition radically changes the foundations of the worldview, spiritual upbringing, values and life of the growing generation to the bad side;

in some cases, the drugs purchased do not benefit the patient. This is followed by increased moods of insecurity and dissatisfaction of the population in relation to the state.

In order to eliminate these problems and shortcomings, to develop the pharmaceutical industry, to be ready for any situation with pandemic diseases (the second wave or the spread of other potential viruses) and to provide the population with quality, safe and effective medicines produced at affordable prices, it is recommended to carry out the following:

1) to create the opportunity to carry out research, laboratory work in the field of media, to work on test systems and vaccines;

2) from the German experience, it is necessary to divide the sold drugs into categories and establish a strict restriction on the sale without a doctor's prescription;

3) to review the activities of pharmacies completely and establish control over them of the

relevant bodies and organize their activities in the structure of private or public clinics;

4) to introduce a system of drastic measures against pharmacies selling counterfeit or psychotropic drugs secretly;

5) establishment of production of natural medicines and tinctures on the basis of local plants, mineral and biological raw materials;

6) development of the necessary information structure "electronic record", "electronic prescription" and "electronic outpatient card" having the opportunity to combine pharmacies into a single information system, as well as the introduction in the primary health care institutions;

7) to introduce a system of strict pricing of drugs of local production, that is, to organize the provision that the cost of medicines will be the same in all pharmacies;

8) to promote a healthy lifestyle, observance of personal hygiene and a wide range of proper nutrition, the formation of responsibility of Citizens for the health of their own and those around them, as well as to increase their medical culture and literacy, aimed at preventing the use of medicines by themselves;

9) implementation of a system of licensing the activities of treating doctors every five years to improve the system of ensuring the health of the population;

10) to accelerate the implementation of compulsory medical insurance system.

We believe that the above proposed proposals will facilitate the implementation of state programs in the field of health care, the regulation and development of the activities of the pharmaceutical industry, the improvement of the activities of pharmacies and the sale of prescription drugs, the establishment of control over them, first of all ensuring security, the reduction of damage to the national economy and

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