

***MARKETING RESEARCH ON THE USE OF VACCINE MEDICINES IN  
THE REPUBLIC OF UZBEKISTAN***

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**Annotation:** This article provides information on marketing research and news, analysis of the use and application of vaccines in the Republic of Uzbekistan.

**Keywords:** COVID-19 vaccine, World Health Organization, World Health Assembly, immunization system, national vaccination program, "Nukus-farm", "Zaamin-farm", "Kosonsoy-farm", "Syrdarya-farm", "Boysun-farm", "Bostanliq-farm", "Parkent-farm", pharmaceutical network.

**Introduction:** A vaccine is a drug designed to build immunity against an infectious disease. The vaccine is made from weakened or killed microorganisms or their antigens obtained by genetic engineering or chemical means. Scientists, doctors, manufacturers and sponsors around the world are working to develop the COVID-19 vaccine. The World Health Organization is coordinating the activities of the participants in this process. The modern concept of vaccination was introduced in the late 18<sup>th</sup> century by the British physician Edward Jenner. By 1900, there were two human vaccines against the virus - smallpox and rabies, and three bacterial vaccines against typhoid, plague. Vaccines against whooping cough, diphtheria, tetanus, tuberculosis, polio, measles and other infectious diseases have been developed in the last century. In 1979, the World Health Assembly declared victory over smallpox. This achievement is one of the greatest public health victories in history.

Over the past year and a half, more than a dozen regulations have been adopted to develop the pharmaceutical industry and ensure the cheapness and free

circulation of medicines and medical devices. The system of public administration in the pharmaceutical industry has been revised, and the Agency for the Development of the Pharmaceutical Industry under the Ministry of Health of the Republic of Uzbekistan has been established. Free economic zones “Nukus-farm”, “Zomin-farm”, “Kosonsoy-farm”, “Syrdarya-farm”, “Boysun-farm”, “Bostanliq-farm” and “Parkent-farm” were established.

UNICEF has donated 16 vehicles to the Ministry of Health of Uzbekistan as part of a joint immunization program in Uzbekistan. The vehicles are designed for the regional branches of the Sanitary-Epidemiological Surveillance and Public Health Service and will be used to further improve monitoring and assistive supervision across the country. With financial support from the Global Alliance for Vaccines and Immunization (GAVI), UNICEF purchased these vehicles to support the Ministry of Health in strengthening its national immunization program. UNICEF has also assisted the Ministry of Health in strengthening the national vaccination program by building vaccine depots at the national, provincial and district levels, and purchasing, installing and transporting refrigerators, freezers and refrigerators. In addition, an information system has been developed to manage the logistics of vaccines. The project is expected to significantly improve the national vaccination system. UNICEF prioritizes the fair distribution of vaccines. During the COVID-19 pandemic and the ongoing supply of COVID-19 vaccines (COVAX), a fair distribution of vaccines is critical. "I am confident that these vehicles, along with other equipment provided for the cold chain, will make a significant contribution to improving the health of children across the country," said Jeffrey Ijumba, UNICEF Deputy Country Director for Uzbekistan. "Fair distribution of vaccines for children has become an urgent task, and the assistance provided today and the vehicles delivered to the provinces are an important step in ensuring the delivery of quality vaccines in all regions of the country."

**Methods:** Five projects worth \$ 41.7 million are being implemented in the region. Measures are being taken to establish public pharmacies in the country. In particular, work has begun on the construction and placement of 75 public pharmacies in Surkhandarya region under a public-private partnership. At the same time, the study showed that insufficient measures are taken to ensure the timely, quality and complete implementation of the adopted legislation, and the lack of initiative on the part of the heads of the responsible bodies. In particular:

- first, the formation of directorates of free economic zones is not provided, specific sources and mechanisms for financing their activities are not identified, the issue of allocating land plots for the location of production facilities is not resolved;

- secondly, the Republican Council for Coordination of Administrative Councils of Free Economic Zones and Small Industrial Zones does not take sufficient measures to effectively organize the work of free economic zones and attract investment;

- thirdly, the lack of developed transport, road and engineering-communication infrastructure of free economic zones does not allow to establish high-quality pharmaceutical production facilities in their territory. It is carried out without regard to labor;

- fourthly, the legal order of establishment and operation of public pharmacies in terms of public-private partnership is not established, their location is not approved, which leads to untimely fulfillment of tasks assigned to the Ministry of Health of the Republic of Uzbekistan to organize the activities of such pharmacies. brought about;

- fifth, the process of introducing modern information and communication technologies to account for the movement of socially important drugs and medical devices in pharmacies, as well as to inform the public about the location of pharmacies, the range and prices of medicines is slow;

- sixth, the research activities of the pharmaceutical industry do not meet modern requirements, insufficient attention is paid to the training of qualified specialists;

- seventh, there is no effective system for testing existing scientific developments in practice, and insufficient measures are being taken to introduce them into production and implement new innovative projects in the field of development of medicines and medical devices.

### **Types of vaccines and their classification.**

Vaccines:	Classification:
Corpuscular vaccines	Corpuscular vaccines contain weakened or killed microbes (virions).
Chemical vaccines	Chemical vaccines are made from antigenic components derived from microbial cells. In doing so, antigens that determine the immunogenic properties of the microorganism are isolated.
Recombinant vaccines	Genetic engineering techniques are used to produce these vaccines, which incorporate the genetic material of a microorganism into antigen-producing yeast cells. After the yeast is grown, the required antigen is isolated, then cleaned and a vaccine is prepared. An example

	of such a vaccine is the hepatitis B vaccine, as well as a vaccine against the human papilloma virus.
Live vaccines	Live vaccines are prepared on the basis of strains of harmless attenuated microorganisms. Vaccine strains multiply in the vaccinated person and cause the vaccine to become infected. In most vaccinated people, the vaccine infection passes without obvious clinical signs and leads to the formation of stable immunity. Live vaccines include: measles, rubella, polio, tuberculosis, and foot-and-mouth disease vaccines.

**Results:** Currently, children and adults at risk are vaccinated free of charge by the state against many serious infectious diseases in the country, depending on the system and epidemiological situation. As a result of the measures taken, paralysis has not been reported in Uzbekistan in recent years, and the incidence of asthma, measles, typhoid and hepatitis B among children has sharply decreased.

**Analysis:** Vaccination is carried out in clinics or vaccination centers by a specially trained health worker under the supervision of a physician. Before vaccinating a child, his body temperature is measured and he is asked what diseases he is suffering from; the doctor will carefully examine the child to determine if it is possible to vaccinate him. Children who have recovered from cardiovascular or central nervous system diseases or have chronic diseases should be vaccinated after

undergoing appropriate medical examination. A strong reaction can sometimes occur when a child is vaccinated, so he or she should be monitored by a doctor for some time after vaccination. The vaccine may have local and general effects, such as slight redness, swelling, pain, fever, and general malaise at the vaccinated site. If the vaccinated child is very upset, has a high fever, it is necessary to consult a doctor immediately. Vaccination information for children or adults is recorded in their medical records. Parents need to know what vaccinations have been given to their children and when they should be given, as well as to ensure that the vaccines are given on time, as timely vaccinations can be very beneficial.

**Discussion:** Today, prevention is one of the most effective measures to prevent the emergence and spread of infectious diseases. Special prophylaxis (vaccination) means that the population resists this or that infection through prophylactic vaccination. Over the past 40 years, prophylactic vaccination has played an important role in the fight against infectious diseases such as measles, diphtheria, pertussis, polio, mumps, hepatitis B, measles, tuberculosis, influenza, mumps and tetanus. Professor Egamberdi ESHBOEV, Chief Research Fellow of the Tashkent Research Institute of Vaccines and Serums, said: "Thanks to the use of special prophylactic methods, the main infectious diseases have been completely reduced from the face of the earth, even eliminated. All this was done in exchange for the use of the vaccine. Chickenpox (natural smallpox) disappeared without a trace, and diseases such as polio, measles, whooping cough, diphtheria, and typhoid were reduced to a minimum. Indeed, vaccines, immunosuppressants and immunoglobulins are important in the prevention of any infectious disease, i.e. in cutting the pathway. The most important of these is the vaccine."

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