Global Vaccine Vials Market Report and Forecast 2024-2032

Market Report (7 Days) | 2024-04-16 | 140 pages | EMR Inc.

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Report description:

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Global Vaccine Vials Market Overview
The global vaccine vials market was valued at USD 22.56 billion in 2023 and is projected to grow at a compound annual growth rate (CAGR) of 6.7% from 2017 to 2032, reaching USD 40.4 billion by the end of the forecast period.
Vaccine vials are small glass or plastic containers that hold doses of vaccines for immunization purposes. They are designed to ensure the quality, safety and efficacy of the vaccines, as well as to facilitate their storage, transport and delivery.
The growth of the market is driven by the increasing demand for vaccines, especially in developing countries, the rising prevalence of infectious diseases, the growing awareness about the benefits of immunization, the technological advancements in vaccine delivery systems, and the supportive government policies and initiatives. However, the market also faces some challenges, such as the excessive cost of vaccine development and production, the stringent regulatory requirements, the cold chain management issues, the risk of contamination and breakage, and the environmental concerns related to the disposal of vaccine vials.
Global Vaccine Vials Market Drivers and Constraints
The global vaccine vials market is influenced by several factors that either propel or hinder its growth. Some of the key drivers of the market are:
-The increasing demand for vaccines, especially in developing countries, where the immunization coverage is low and the burden of infectious diseases is high. According to the World Health Organization (WHO), in 2019, 19.7 million children under the age of one year did not receive the basic vaccines, and 3.6 million of them lived in India, 2.8 million in Nigeria, and 1.5 million in Pakistan. The global vaccination coverage for the third dose of diphtheria, tetanus and pertussis (DTP3) was 85% in 2019, which is below the target of 90% by 2020. The COVID-19 pandemic has also highlighted the need for developing and distributing effective vaccines to combat the virus and prevent future outbreaks.
-The rising prevalence of infectious diseases, such as tuberculosis, measles, polio, hepatitis, influenza, meningitis, and COVID-19, which pose a serious threat to public health and economic development. According to the WHO, in 2019, 10 million people fell ill with tuberculosis, 1.4 million died from the disease, and 465,000 developed multidrug-resistant tuberculosis. Measles cases increased by 556% globally from 2017 to 2019, reaching 9.8 million cases and 207,500 deaths. Polio remains endemic in

Afghanistan and Pakistan, with 140 cases reported in 2019. Hepatitis B and C affect 325 million people worldwide and cause 1.3 million deaths annually. Influenza causes up to 650,000 deaths every year. Meningitis affects 5 million people and causes 300,000 deaths annually. COVID-19 has infected over 112 million people and caused over 2.4 million deaths as of February 2021.

- The growing awareness about the benefits of immunization, which is one of the most cost-effective and successful public health interventions. Vaccines can prevent morbidity and mortality, reduce the transmission of diseases, protect the vulnerable groups, and contribute to the achievement of the Sustainable Development Goals. According to the WHO, immunization prevents 2-3 million deaths every year, and an additional 1.5 million deaths could be avoided if the global vaccination coverage improves. The benefits of immunization also outweigh the costs, as every USD 1 spent on vaccination returns USD 44 in economic and social benefits.
- The technological advancements in vaccine delivery systems, such as prefilled syringes, auto-disable syringes, needle-free injectors, micro-needles, and nasal sprays, which offer advantages over the conventional vaccine vials, such as ease of use, safety, accuracy, efficiency, and patient comfort. These innovations also address some of the challenges faced by the vaccine vials market, such as the cold chain management, the risk of contamination and breakage, and the environmental impact. However, vaccine vials remain the dominant mode of vaccine delivery, as they are cheaper, more widely available, and more compatible with several types of vaccines.
- The supportive government policies and initiatives, such as the Global Vaccine Action Plan, the Gavi Alliance, the Vaccine Alliance, the Global Polio Eradication Initiative, the Measles and Rubella Initiative, and the COVAX Facility, which aim to increase the access, affordability, and availability of vaccines, especially in low- and middle-income countries. These initiatives also provide funding, technical assistance, and coordination for the development, production, and distribution of vaccines, as well as for the strengthening of the health systems and the immunization programs.

Some of the key constraints of the market are:

- The high cost of vaccine development and production, which involves a complex and lengthy process of research, testing, approval, and manufacturing. According to a study by the Tufts Center for the Study of Drug Development, the average cost of developing a vaccine is USD 1.1 billion, and the average time is 10.7 years. The cost of producing a vaccine also depends on the type, quantity, quality, and scale of the vaccine, as well as on the raw materials, equipment, labor, and overheads. The COVID-19 pandemic has also increased the pressure on the vaccine manufacturers to accelerate the development and production of the vaccines, while ensuring their safety and efficacy.
- The stringent regulatory requirements, which ensure the quality, safety and efficacy of the vaccines, but also pose challenges for the vaccine vials market. The vaccine vials have to comply with the standards and guidelines of the regulatory authorities, such as the WHO, the US Food and Drug Administration (FDA), the European Medicines Agency (EMA), and the National Regulatory Authorities (NRAs) of different countries. The vaccine vials also must undergo various tests, such as sterility, stability, potency, and compatibility, before they are approved and released for use. The regulatory requirements also vary across different regions and countries, which may create barriers for market entry and expansion.
- The cold chain management issues, which refer to the maintenance of the optimal temperature and humidity conditions for the storage, transport and delivery of the vaccines. The vaccine vials are sensitive to temperature fluctuations and exposure to light, which may affect their quality, safety and efficacy. According to the WHO, the optimal temperature range for most vaccines is 2-8 degrees Celsius, and any deviation from this range may result in the loss of potency or the degradation of the vaccines. The cold chain management requires the availability and maintenance of the equipment, such as refrigerators, freezers, cold boxes, vaccine carriers, and temperature monitors, as well as the trained personnel, the adequate infrastructure, and the reliable power supply. The cold chain management also entails additional costs and logistical challenges, especially in remote and resource-limited settings.
- The risk of contamination and breakage, which may compromise the quality, safety and efficacy of the vaccines, as well as pose health and environmental hazards. The vaccine vials may be contaminated by microorganisms, such as bacteria, fungi, or viruses, or by foreign particles, such as glass, metal, or rubber, during the manufacturing, filling, sealing, or handling processes. The contamination may lead to the loss of potency, the formation of precipitates, the change of color, or the adverse reactions in the recipients. The vaccine vials may also break due to mechanical stress, thermal shock, or improper handling, which may result in the wastage of the vaccines, the injury of the personnel, or the exposure of the environment to the vaccine residues.

-The environmental concerns related to the disposal of vaccine vials, which may generate a large amount of biomedical waste that needs to be properly collected, segregated, treated, and disposed of. The vaccine vials may contain hazardous materials, such as glass, plastic, or residual vaccines, which may pose a risk of infection, injury, or pollution. The disposal of vaccine vials also requires the availability and maintenance of the equipment, such as incinerators, autoclaves, shredders, or microwaves, as well as the trained personnel, the adequate infrastructure, and the regulatory compliance. The disposal of vaccine vials also entails additional costs and logistical challenges, especially in remote and resource-limited settings.

Global Vaccine Vials Market Trends and Developments

The global vaccine vials market is witnessing some key trends and developments that may shape its future growth and opportunities. Some of these trends and developments are:

-Rising Demand for Vaccines: The COVID-19 pandemic has highlighted the critical importance of vaccines and has led to a surge in vaccine production and distribution, thereby increasing the demand for vaccine vials.

-Advancements in Packaging Technology: Innovations in pharmaceutical packaging, such as the development of break-resistant and lightweight glass vials, and the use of polymer vials, are enhancing the safety and efficiency of vaccine storage and transportation.

-Focus on Sustainability: There is a growing emphasis on sustainability in the pharmaceutical industry, leading to the exploration of eco-friendly materials and recyclable options for vaccine vials.

-Increasing Use of Prefilled Syringes: The trend towards prefilled syringes for vaccine delivery is influencing the vaccine vials market, as these syringes offer convenience, accuracy, and reduced waste.

-Cold Chain Logistics: The need for maintaining the cold chain for certain vaccines, especially mRNA-based vaccines like those for COVID-19, is driving the demand for specialized vials that can withstand low temperatures.

-Global Immunization Programs: The expansion of global immunization programs, supported by organizations like the World Health Organization (WHO) and Gavi, the Vaccine Alliance, is boosting the demand for vaccine vials in developing countries.

-Regulatory Compliance: Strict regulatory standards for pharmaceutical packaging are ensuring the quality and safety of vaccine vials, which is crucial for maintaining the efficacy of vaccines.

-Scalability and Flexibility: The ability to quickly scale up production and adapt to different vaccine types and dosages is becoming increasingly important for vial manufacturers, especially in response to pandemic-related demands.

-Investment in Production Capacity: Manufacturers are investing in expanding their production capacity and modernizing facilities to meet the growing demand for vaccine vials.

Global Vaccine Vials Market Segmentation

Market Breakup by Type

-Single Dose

-Multiple Dose

Market Breakup by Material

-Glass

-Polymer

Market Breakup by Capacity

-10 ml

-20 ml

-5 ml

-3ml

-2ml

Market Breakup by Application

-Preventive Vaccine

-Therapeutics Vaccine

Market Breakup by Region
-North America
-Europe
-Asia Pacific
-Latin America
-Middle East and Africa
Global Vaccine Vials Market: Competitive Landscape
The global vaccine vials market is highly competitive and fragmented, with the presence of many local and global players. Some of the key players in the market are Cardinal Health Inc., Nipro Corporation, Thermo Fisher Scientific Inc., Zebra Technologies Corporation, Schott AG, Gerresheimer AG, Lisaline Lifescience Technologies Pvt Ltd., DWK Life Sciences GmbH, Catalent, Inc., EVIGENCE SENSORS Inc., Richland Glass Company Inc., Vetter Pharma, Pacific Vial Manufacturing Inc., Berlin Material Type LLC and Stevanato Group.
These players compete on the basis of the product quality, price, innovation, distribution, and customer service. These players also adopt various strategies, such as mergers and acquisitions, partnerships and collaborations, product launches and developments, and research and development, to expand their market share and presence.

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*Additional insights provided are customisable as per client requirements.

* The coverage of the Market Landscape section depends on the data availability and may cover a minimum of 80% of the total market. The EMR team strives to make this section as comprehensive as possible.

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