Cancer Vaccines Market Assessment, By Type [Subunit Preventive Vaccines, Therapeutic Vaccines], By Technology [Peptide-based vaccines, Vector-based vaccines, DNA/RNA-based vaccines, Others], By Indication [Breast Cancer, Lung Cancer, Prostate Cancer, Ovarian Cancer, Others], By End-user [Hospitals, Specialty Centres, Cancer Research Institutes, Others], By Region, Opportunities and Forecast, 2018-2032F

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Report description:

Global cancer vaccines market is projected to witness a CAGR of 8.83% during the forecast period 2025-2032, growing from USD 8.79 billion in 2024 to USD 17.29 billion in 2032.
Vaccines are essential for reducing morbidity and mortality from cancer. The market's growth is fueled by rising cases of cancer, strong government immunization programs, and increasing public awareness. Governments and organizations like WHO, GAVI, and UNICEF are actively funding and supporting large-scale vaccination campaigns, especially in developing countries. Biotechnology giants are coming together to be able to produce big results. Additionally, advancements in vaccine technology, such as mRNA and recombinant vaccines, accelerate development and production. Increased R&D investments from pharmaceutical and biotech firms are leading to innovative vaccines for diseases such as HIV, cancer. Favourable regulatory policies and growing healthcare expenditures further support market expansion. The increasing geriatric population, rising healthcare infrastructure in emerging economies, and expanding global vaccination coverage are expected to sustain the market's long-term growth. For instance, in March 2024, Merck & Co. announced initiation of clinical trials for a novel investigational multi-valent HPV vaccine that offers broader protection against various HPV strains. In addition, the business intends to examine the safety and effectiveness of a single-dose regimen of GARDASIL9 (Human Papillomavirus 9-valent,

recombinant) in comparison to the approved three-dose regimen in clinical trials involving both males and females.

Rising Prevalence of Cancer Boosts Market Demand

One of the main factors propelling the global market for cancer vaccines is the rising incidence of cancer globally. A major component in the rising cancer burden is the rising prevalence of risk factors linked to lifestyle choices, such as smoking, poor eating habits, and inactivity. There is an increased need for cancer vaccines as a result of this concerning trend, which calls for the creation of efficient therapeutic and prevention measures. For example, according to report of America Cancer Society published in 2025, new cancer cases that are expected in the United States are 2,041,910, which is an alarmingly high figure and should be addressed. The most common cancers are breast, lung, colon and rectum and prostate cancers. Around one-third of deaths from cancer are due to tobacco use, high body mass index, alcohol consumption, low fruit and vegetable intake, and lack of physical activity. In addition, air pollution is an important risk factor for lung cancer. Cancer-causing infections, such as human papillomavirus (HPV) and hepatitis, are responsible for approximately 30% of cancer cases in low- and lower-middle-income countries. Furthermore, since the chance of having cancer rises with age, the aging of the world's population is another factor contributing to the growth in cancer cases. The emphasis is now on preventive vaccines that can lower the occurrence of specific diseases, including liver cancer, cervical cancer, and others, while the need for cancer treatment options also grows. Pharmaceutical firms are therefore making significant investments in R&D to produce novel vaccines, which is fueling market expansion. The industry is being further stimulated by governments, healthcare providers, and international organizations that are aggressively promoting immunization programs and cancer awareness.

Government Support Towards Healthcare Sector Supports Market Expansion

Government programs and support are essential for the expansion of the worldwide market for cancer vaccines. Cancer-related morbidity and mortality puts an enormous burden on governments around the world, placing a greater emphasis on healthcare innovations, particularly in the treatment of cancer. Funding for cancer research, the creation of innovative treatments, and the creation of cancer vaccines are major factors propelling the market. Public-private collaborations have been formed in numerous nations to promote innovation in vaccines and immunotherapy. For instance, the United States of government provides significant funding for cancer research through organizations like the National Institutes of Health (NIH) and the National Cancer Institute (NCI). Furthermore, government initiatives that promote the approval and commercialization of novel vaccines-like expediting the licensing process and establishing vaccination reimbursement schemes-are essential. These programs not only hasten the creation of vaccinations but also lessen the financial strain on patients, increasing access to these treatments. Additionally, several countries are aggressively pushing vaccination campaigns to prevent malignancies linked to viruses, such as HPV vaccinations to prevent cervical cancer, which is increasing market demand. For instance, in January 2023, the UK government announced an investment of USD 25.13 (□20) billion for increasing R&D vaccine development. The collaboration will aim to deliver 10,000 personalized therapies to UK patients by 2030 through a new research and development hub creating jobs and strengthening the UK's position as a leader in global life sciences. The new partnership will help accelerate clinical trials of personalized immunotherapies for cancer and infectious disease vaccines.

Breast Cancer Account for a Significant Share of the Market

Breast cancer ranks among the most common cancers worldwide, placing it as a critical area of focus for research and vaccine development within the cancer vaccine sector. As the second most frequently diagnosed cancer globally and the primary cause of cancer-related fatalities among women, breast cancer has attracted significant investment aimed at discovering effective prevention and treatment strategies, including the development of cancer vaccines. The increasing incidence of breast cancer, especially in developed nations where early detection and diagnosis are more prevalent, has intensified the emphasis on vaccine research to prevent or mitigate the risk of the disease. For instance, breast cancer is the most common cancer in women. It accounts for about 30% (or 1 in 3) of all new female cancers each year. According to the American Cancer Society's estimates for breast cancer in the United States for 2025, about 316,950 new cases of invasive breast cancer will be diagnosed in women, and about 42,170 women will die from breast cancer. While vaccines such as the human papillomavirus (HPV) vaccine indirectly contribute to the reduction of certain cancers, including cervical cancer, there is a growing concentration on creating vaccines specifically targeting breast cancer. These vaccines are designed to prevent the recurrence of breast cancer by focusing on cancer-specific antigens or enhancing the immune system's ability to combat existing cancer cells.

Moreover, the prominence of breast cancer in global health dialogues has fostered heightened awareness and advocacy, leading

to increased funding and policy support for vaccine research initiatives. With advancements in immunotherapy, cancer vaccines are emerging as a promising avenue for both the treatment and prevention of breast cancer. Furthermore, the rising interest in personalized medicine within oncology generates opportunities for vaccines customized to individual patient profiles, thereby expanding the market for breast cancer vaccines. Consequently, the sustained emphasis on breast cancer research is anticipated to propel the development of more targeted and effective vaccines, thereby contributing to the overall expansion of the cancer vaccines market.

North America Holds Major Market Share

North America holds the largest market share in the global market for cancer vaccines because of its strong healthcare system, cutting-edge medical research, and high patient awareness. Many pharmaceutical and biotechnology firms specializing in cancer vaccine research and development are based in the United States. Significant public and corporate investments in the area support steady advancements in vaccine development. Furthermore, North America has a well-established healthcare system and a well-established protocol for the approval of new medications, which makes advanced cancer treatments and vaccinations more widely available to the populace. Additionally, the existence of cancer vaccine reimbursement programs guarantees that patients can afford their therapies. Furthermore, the market in North America is being supported by rising healthcare costs and growing awareness of the benefits of vaccinations for cancer prevention. Leading pharmaceutical firms like Merck and GlaxoSmithKline help propel product research and commercialization, allowing the market expansion for cancer vaccines. For instance, in April 2023, Moderna, Inc., a biotechnology company that is at the forefront of messenger RNA (mRNA) therapeutics and vaccines has presented results from the Phase 2b KEYNOTE-942/mRNA-4157-P201 trial evaluating mRNA-4157 (V940), an investigational individualized neoantigen therapy (INT), in combination with KEYTRUDA, Merck & Co. Inc.'s anti-PD-1 therapy, in patients with resected high-risk melanoma (stage III/IV). Adjuvant treatment with mRNA-4157 (V940) in conjunction with KEYTRUDA improved recurrence-free survival (RFS) in the entire intention-to-treat population in a statistically significant and clinically meaningful way. It also decreased the risk of recurrence or death by 44% when compared to KEYTRUDA alone. North America maintains its position as the leading area in the worldwide market due to its comprehensive healthcare regulations and emphasis on cancer prevention.

Future Market Scenario (2025-2032F)

One of the main factors contributing to the anticipated growth of the cancer vaccines market is the increasing demand for treatment options to ensure patient safety by delivering the right quality drug or any other such chemical product. Not only that, but the rising population and cases of cancer are also factors that will always propel market growth in the future. Given that technology is advancing, we can also expect cutting-edge technology in the area. Players in this market are expanding at an unparalleled rate, introducing cost-effective and efficient technologies. For instance, OncoC4, Inc., a clinical-stage biopharmaceutical firm committed to the discovery and development of innovative biologicals for cancer therapy among patients, partnered with BioNTech SE in March 2023.

Key Players Landscape and Outlook

The key players in the market are significantly investing in the development of cancer vaccines and are utilizing strategies such as mergers, acquisitions, partnerships, and new product launches to improve their services and competitiveness. Such efforts will propel significant growth in the market, allowing large-cap industry players to increase their presence and, therefore, find new opportunities in this market.

For example, the Serum Institute of India Pvt. Ltd., acquired a 20% stake in IntegriMedical, in May 2024. This acquisition is aimed at adopting a needle-free system technology.

For instance, in March 2024, BostonGene Corporation, NEC Corporation, and Transgene Biotek Ltd extended their research collaboration for the Neoantigen Cancer Vaccine TG4050 Phase I/II Clinical Trial.

Table of Contents:

1. Project Scope and Definitions
2. Research Methodology
3. Executive Summary
4. Global Cancer Vaccines Market Outlook, 2018-2032F
4.1. Market Size Analysis & Forecast

4.1.1.By Value
4.2.Market Share Analysis & Forecast
4.2.1.By Type
4.2.1.1.Preventive Vaccines
4.2.1.2.Therapeutic Vaccines
4.2.2.By Technology
4.2.2.1.Peptide-based vaccines
4.2.2.2.Vector-based vaccines
4.2.2.3.DNA/RNA-based vaccines
4.2.2.4.Others
4.2.3.By Indication
4.2.3.1.Breast Cancer
4.2.3.2.Lung Cancer
4.2.3.3.Prostate Cancer
4.2.3.4.Ovarian Cancer
4.2.3.5.Others
4.2.4.By End-user
4.2.4.1.Hospitals
4.2.4.2.Specialty Centers
4.2.4.3.Cancer Research Institutes
4.2.4.4.Others
4.2.5.By Region
4.2.5.1.North America
4.2.5.2.Europe
4.2.5.3.Asia-Pacific
4.2.5.4.South America
4.2.5.5.Middle East and Africa
4.2.6.By Company Market Share Analysis (Top 5 Companies and Others - By Value, 2024)
4.3.Market Map Analysis, 2024
4.3.1.By Type
4.3.2.By Technology
4.3.3.By Indication
4.3.4.By End-user
4.3.5.By Region
5.North America Cancer Vaccines Market Outlook, 2018-2032F*
5.1.Market Size Analysis & Forecast
5.1.1.By Value
5.2.Market Share Analysis & Forecast
5.2.1.By Type
5.2.1.1.Preventive Vaccines
5.2.1.2.Therapeutic Vaccines
5.2.2.By Technology
5.2.2.1.Peptide-based vaccines
5.2.2.2.Vector-based vaccines
5.2.2.3.DNA/RNA-based vaccines
5.2.2.4.Others
5.2.3.By Indication

5.2.3.1.Breast Cancer
5.2.3.2.Lung Cancer
5.2.3.3.Prostate Cancer
5.2.3.4.Ovarian Cancer
5.2.3.5.Others
5.2.4.By End-user
5.2.4.1.Hospitals
5.2.4.2.Specialty Centers
5.2.4.3.Cancer Research Institutes
5.2.4.4.Others
5.2.5.By Country Share
5.2.5.1.United States
5.2.5.2.Canada
5.2.5.3.Mexico
5.3.Country Market Assessment
5.3.1.United States Cancer Vaccines Market Outlook, 2018-2032F*
5.3.1.1.Market Size Analysis & Forecast
5.3.1.1.1.By Value
5.3.1.2.Market Share Analysis & Forecast
5.3.1.2.1.By Type
5.3.1.2.1.1.Preventive Vaccines
5.3.1.2.1.2.Therapeutic Vaccines
5.3.1.2.2.By Technology
5.3.1.2.2.1.Peptide-based vaccines
5.3.1.2.2.2.Vector-based vaccines
5.3.1.2.2.3.DNA/RNA-based vaccines
5.3.1.2.2.4.Others
5.3.1.2.3.By Indication
5.3.1.2.3.1.Breast Cancer
5.3.1.2.3.2.Lung Cancer
5.3.1.2.3.3.Prostate Cancer
5.3.1.2.3.4.Ovarian Cancer
5.3.1.2.3.5.Others
5.3.1.2.4.By End-user
5.3.1.2.4.1.Hospitals
5.3.1.2.4.2.Specialty Centers
5.3.1.2.4.3.Cancer Research Institutes
5.3.1.2.4.4.Others
5.3.2.Canada
5.3.3.Mexico
*All segments will be provided for all regions and countries covered
6.Europe Cancer Vaccines Market Outlook, 2018-2032F
6.1.Germany
6.2.France
6.3.Italy
6.4.United Kingdom
6.5.Russia

6.6.Netherlands
6.7.Spain
6.8.Poland
7.Asia-Pacific Cancer Vaccines Market Outlook, 2018-2032F
7.1.India
7.2.China
7.3.Japan
7.4.Australia
7.5.Vietnam
7.6.South Korea
7.7.Indonesia
7.8.Philippines
8.South America Cancer Vaccines Market Outlook, 2018-2032F
8.1.Brazil
8.2.Argentina
9.Middle East and Africa Cancer Vaccines Market Outlook, 2018-2032F
9.1.Saudi Arabia
9.2.UAE
9.3.South Africa
9.4.Israel
10.Demand Supply Analysis
11.Value Chain Analysis
12.Porter's Five Forces Analysis
13.PESTLE Analysis
14.Pricing Analysis
15.Market Dynamics
15.1.Market Drivers
15.2.Market Challenges
16.Market Trends and Developments
17.Regulatory Framework and Innovation
17.1.Regulatory Approvals
17.2.Clinical Trials
18.Patent Landscape
19.Case Studies
20.Competitive Landscape
20.1.Competition Matrix of Top 5 Market Leaders
20.2.SWOT Analysis for Top 5 Players
20.3.Key Players Landscape for Top 10 Market Players
20.3.1.Pfizer Inc.
20.3.1.1.Company Details
20.3.1.2.Key Management Personnel
20.3.1.3.Products and Services
20.3.1.4.Financials (As Reported)
20.3.1.5.Key Market Focus and Geographical Presence
20.3.1.6.Recent Developments/Collaborations/Partnerships/Mergers and Acquisitions
20.3.2.Sun Pharmaceutical Industries Ltd.
20.3.3.Merck & Co., Inc.

20.3.4. GlaxoSmithKline plc
20.3.5. Moderna, Inc.
20.3.6. Sanofi S.A.
20.3.7. CSL Limited
20.3.8. Serum Institute of India Pvt. Ltd.
20.3.9. CureVac N.V.
20.3.10. Dendreon Pharmaceuticals LLC
*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.
21. Strategic Recommendations
22. About Us and Disclaimer

Cancer Vaccines Market Assessment, By Type [Subunit Preventive Vaccines, Therapeutic Vaccines], By Technology [Peptide-based vaccines, Vector-based vaccines, DNA/RNA-based vaccines, Others], By Indication [Breast Cancer, Lung Cancer, Prostate Cancer, Ovarian Cancer, Others], By End-user [Hospitals, Specialty Centres, Cancer Research Institutes, Others], By Region, Opportunities and Forecast, 2018-2032F

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