

Pharmacogenomics - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Pharmacogenomics Market size is estimated at USD 8.67 billion in 2024, and is expected to reach USD 11.67 billion by 2029, growing at a CAGR of 6.12% during the forecast period (2024-2029).

The COVID-19 pandemic severely impacted the pharmacogenomics market as clinical trials, drug development, and diagnostic procedures for diseases other than COVID-19 were stopped. According to the research study published by PubMed in December 2021, there was a substantial reduction in procedures used to diagnose cancer and subsequent reductions in new diagnoses across the United States because of the COVID-19 pandemic. New cancer diagnoses decreased by 13% to 23%, which showed a negative impact of COVID-19 on the diagnosis of new cancers. As the pandemic progressed, COVID-19 had a minor positive impact on the market growth, as there was an increasing demand for genomics technology in developing therapeutics and diagnostics against COVID-19. Currently, as the number of COVID-19 cases has declined significantly and the pandemic has subsided around the world, the pharmacogenomics market is expected to regain its full potential over the forecast period of the study.

The pharmacogenomics market is driven by the rising popularity of precision medicine coupled with growing research and development expenditure on pharmacogenomics technologies, which is giving rise to the fast development of novel products. The high incidence rate of adverse drug reactions is also leading to the higher adoption of pharmacogenomics in the global market.

The increasing focus on precision medicine is expected to augment the pharmacogenomics market, as the goal of the precision medicine approach is to integrate genetic and environmental information about diseases and/or their responses to treatments. With the rapid growth in digital technologies and advances in biology, the pharmacogenomics market is projected to grow significantly. The digital technologies can help pharma companies accelerate their time to market and provide better patient

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experiences, thus leading to the lucrative growth of the market.

Additionally, increasing research and development spending is also contributing to the adoption of pharmacogenomics and drives the growth of the market. For instance, in October 2021, the Israel Precision Medicine Partnership (IPMP) awarded funding of about USD 9.9 million to 11 projects in Israel for the research of personalized medicine that includes cancers, Crohn's disease, and rare diseases. This increase of R&D spending will boost the market growth during the forecast period of the study.

Moreover, there is increasing adoption of Sanger technology and next-generation sequencing in academic and institutional research projects. Adding to that, a rise in funding and investment programs augment the demand for DNA sequencing products in these entities. For instance, according to the May 2022 report of the NIH of the United States, the spending on research in cancer genomics has increased significantly over the years from USD 1,160 million in 2021 to USD 1,220 million in 2022,. This data shows significant investment in the genomics and personalized medicine which is expected to have a positive impact on the growth of the pharmacogenomics market. Pharmacogenomics is also helpful in cancer treatment and has proved to improve the survival of patients. At the same time, it has also been found to reduce the unnecessary cost of unresponsive treatment by patients.

Factors such as increasing focus on precision medicine and growing research and development spending are expected to enhance the growth of pharmacogenomics market over the forecast period. However, issues related to reimbursement and problem associated with the detection of gene variation that affects drug response may restrain the growth of the pharmacogenomics market during the forecast period of the study.

Pharmacogenomics Market Trends

Drug Discovery Segment is Expected to Occupy a Significant Share in the Pharmacogenomics market Over the Forecast Period

Drug discovery is a process that aims at identifying a compound that helps in treating and curing diseases therapeutically. Typically, a drug discovery effort addresses a biological target that plays a role in developing the disease or starts from a molecule with interesting biological activities. In clinical studies, pharmacogenetic testing can be used to group people according to their genotype, reflecting how well they can metabolize drugs. The clinical trials that result in adverse drug reactions are avoided. This can also reduce the attrition of drug compounds.

Factors such as the rising incidence of cancer and other chronic diseases, increasing R&D activities for developing potential new drugs for these diseases, and an increase in demand for precision medicine are expected to enhance the segment's growth during the forecast period. Additionally, pharmacogenomics improves the drug's efficacy and reduces the chances of adverse effects. Hence this factor is expected to play a significant role in the growth of the studied segment. For instance, according to a research study published by Drug Metabolism Reviews in April 2021, pharmacogenomics can assist drug researchers in identifying drug responders and non-responders as well as people at risk of ADRs, with the main objective of accelerating medication development and preventing drug failures. This can be accomplished by incorporating genomic data into various stages of drug discovery and development, starting with the identification and validation of biological targets and moving on to patient recruitment for clinical trials.

The increasing investment in drug discovery processes and development activities will further increase the adoption of pharmacogenomics technology which is anticipated to have a significant and positive impact on the drug discovery segment in the pharmacogenomics market. According to the 2022 annual report of Eli Lilly and Company, their research and development expenditure increased to USD 7,025.9 million in 2021 and it has increased over the years owing to the high investment in the new drug discovery and development activities.

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Therefore, owing to factors such as increasing investment in drug discovery processes and development activities and rising incidence of cancer and other chronic diseases, the drug discovery segment is expected to hold a significant share in the pharmacogenomics market during the forecast period.

North America is Anticipated to Hold a Significant Market Share in the Pharmacogenomics Market Over the Forecast Period

The North American region is expected to have a significant share in the pharmacogenomics market over the forecast period owing to the factors such as high investment in personalized medicine and drug discovery and development activities, the presence of robust healthcare infrastructure, and the high prevalence of several chronic diseases. For instance, according to the American Cancer Society 2022 report, an estimated 1.9 million new cancer cases will be diagnosed in the United States in 2022, which includes 290,560 cases of breast cancer. Furthermore, according to the data published by the Public Health Agency of Canada in November 2021, an estimated 229,200 Canadians are expected to be diagnosed with cancer during 2021. These factors are expected to drive demand for advanced and effective therapeutics where pharmacogenomics can play a crucial role and thus, the studied market is expected to grow in the North American region.

In the North American region, the United States is expected to have a major market share as several pharmaceutical and biopharmaceutical companies are headquartered in the United States and are highly invested in the development of new therapeutics and also, and there is huge funding from government bodies like NIH for the research activities in the area and coupled with high disease prevalence, the United States is expected to be a major market for the pharmacogenomics market. For instance, various government bodies, like NHGRI (National Human Genome Research Institute, United States), have been supporting research related to human genome sequencing, while funding research related to the genome's structure, function, and role in health and disease. For instance, according to the research study published by PubMed in October 2021, about half of the population (45.8%) of the United States in the last decade had used one or more prescription drugs in the last 30 days and there are about 1.5 million preventable adverse drug reaction (ADR) in the United States every year which led to the death of about 100,000 Americans and pharmacogenomics is a field of precision medicine that uses a genetic variation to predict response to medication which can not only reduce the rate of prevalence of ADR but also the high dependence of population of various drugs which may not be beneficial for them and due to these factors, the pharmacogenomics market is expected to grow over the forecast period in the United States.

Further, the launch of new products and services in the country is expected to fuel growth in the pharmacogenomics market as it will increase the adoption of pharmacogenomics products and services in the region. For instance, in May 2022, in Michigan, Blue Care Network introduced Blue Cross Personalized Medicine, the end-to-end pharmacogenomics precision medicine program which uses genetic testing to adapt prescription therapies to specific individuals after reviewing the list of pharmaceuticals recommended for various cardiovascular, oncological, and behavioral health disorders.

Therefore, owing to factors such as high investment in personalized medicine and drug discovery and development activities, and the high prevalence of several chronic diseases, the North American region is expected to have a significant market share in the pharmacogenomics market and the United States will be at forefront of it over the forecast period.

Pharmacogenomics Industry Overview

The pharmacogenomics market is highly fragmented due to several key players. The large interest of researchers and investment in the safety and efficiency of drugs by companies is the major factors responsible for the market's growth, making it highly competitive with the presence of many key players in the pharmacogenomics market. The government is also involved in funding companies that work to develop bioinformatics technology for precision medicine research applications. Some players are Abbott Laboratories Inc, Biomerieux SA, Becton, Dickinson and Company, Bio-Rad Laboratories Inc., Thermo Fisher Scientific, and F. Hoffman-La Roche Ltd, among others.

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