

Personalized Medicine & Pharmacogenomics Market Forecasts to 2034 - Global Analysis By Product (Pharmacogenomic Testing Kits, Genetic Sequencing Platforms, Companion Diagnostics, Personalized Therapeutics, Clinical Decision Support Tools and Bioinformatics & Data Analytics Solutions), Technology, Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Personalized Medicine & Pharmacogenomics Market is accounted for \$664.1 billion in 2026 and is expected to reach \$1644.3 billion by 2034 growing at a CAGR of 12.0% during the forecast period. Personalized Medicine & Pharmacogenomics enables healthcare providers to customize treatments based on patients' genetic information, biological traits, and specific disease characteristics. Pharmacogenomic analysis can reveal how genetic differences affect responses to medicines, including effectiveness, dosage requirements, and adverse reactions. Developments in genomic sequencing, molecular diagnostics, targeted therapies, and precision healthcare are accelerating adoption. Combining genomic insights with clinical practices allows physicians to make more informed treatment decisions, improve therapeutic effectiveness, minimize medication-related complications, and promote patient-focused care while supporting more efficient and individualized healthcare management.

According to the U.S. FDA, examples of pharmacogenomic information in drug labeling include HLA-B for abacavir, CYP2C19 for clopidogrel, CYP2D6 for codeine, DPYD for fluorouracil, and CFTR for eluxacaftor/ivacaftor/tezacaftor, demonstrating the practical use of genetic biomarkers in guiding medication-related decisions.

Market Dynamics:

Driver:

Growing adoption of genomic testing

Increasing use of genomic testing is accelerating the Personalized Medicine & Pharmacogenomics Market by enabling more precise healthcare decisions. Technological progress in genetic sequencing and molecular diagnostics has improved the accessibility, reliability, and clinical value of testing. Physicians can use genetic information to assess disease risks, recognize relevant biomarkers, and select therapies more appropriately. Pharmacogenomic assessments also provide insights into individual drug responses, helping reduce medication-related complications and improve treatment selection. Broader clinical adoption and advancing testing technologies continue to encourage personalized healthcare implementation.

Restraint:

High cost of genomic testing and personalized therapies

Expensive genomic analysis and individualized treatment can hinder expansion of the Personalized Medicine & Pharmacogenomics Market. Genetic sequencing, specialized diagnostic procedures, and pharmacogenomic evaluations may require advanced laboratory facilities, trained professionals, and sophisticated technologies, increasing implementation expenses. Limited healthcare funding can make these services difficult to access for certain providers and patient populations. Furthermore, targeted medications and repeated diagnostic assessments can add to treatment costs. These economic challenges can discourage adoption and prevent personalized healthcare solutions from achieving broader utilization across healthcare systems.

Opportunity:

Expansion of genomic-based drug development

Increasing use of genomic information in drug development creates substantial growth opportunities for the Personalized Medicine & Pharmacogenomics Market. Pharmaceutical and biotechnology organizations can apply genetic data to identify disease targets, discover predictive biomarkers, and develop therapies designed for particular patient groups. Incorporating genomic insights may improve patient selection and contribute to more focused clinical research. Collaboration among healthcare providers, research institutions, technology companies, and pharmaceutical

organizations can accelerate innovation. This expanding ecosystem can encourage development of personalized treatments and strengthen pharmacogenomic applications.

Threat:

Rapid technological evolution and interoperability challenges

Fast-paced technological development and difficulties integrating healthcare systems pose potential threats to the Personalized Medicine & Pharmacogenomics Market. Continuous changes in sequencing technologies, diagnostic platforms, software, and clinical infrastructure can make system compatibility challenging. Differences in genomic data formats and inadequate connectivity among laboratories, genomic databases, and electronic health records may hinder seamless information sharing. Healthcare organizations can also encounter recurring expenses related to technology upgrades and integration. Such barriers may delay adoption, disrupt workflows, and limit the practical benefits of personalized healthcare technologies.

Covid-19 Impact:

The COVID-19 pandemic produced both challenges and opportunities for the Personalized Medicine & Pharmacogenomics Market. Disruptions to routine medical services affected certain genetic testing, research, and healthcare activities. At the same time, the crisis highlighted the importance of genomic information for evaluating disease progression, therapeutic responses, and drug-gene interactions. Research involving COVID-19 patients demonstrated potential applications for pharmacogenomic-guided treatment decisions. Additionally, genomic datasets and patient biorepositories established during the pandemic created valuable resources for advancing precision medicine and supporting greater adoption of preemptive pharmacogenomic testing.

The pharmacogenomic testing kits segment is expected to be the largest during the forecast period

The pharmacogenomic testing kits segment is expected to account for the largest market share during the forecast period by offering standardized tools for detecting genetic variations that influence how individuals respond to medicines. They enable identification of important gene variants linked with drug metabolism, therapeutic effectiveness, and potential adverse reactions. Their usefulness across hospitals, diagnostic laboratories, research organizations, and clinical environments strengthens their role in pharmacogenomic workflows. Advancements in assay technologies,

multiplex capabilities, testing accuracy, and user-friendly formats are further encouraging adoption, supporting broader use of genetic information in individualized treatment planning.

The rare & genetic disorders segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the rare & genetic disorders segment is predicted to witness the highest growth rate. Greater understanding of genetic mechanisms associated with uncommon diseases is driving the use of genomic testing, precision diagnostics, and customized treatment approaches. Pharmacogenomic tools can assist in detecting clinically relevant genetic variations and guiding appropriate therapeutic choices. Continued progress in sequencing, biomarker identification, targeted medicines, and molecular diagnostics is broadening the role of personalized healthcare, encouraging increased adoption among clinicians and researchers managing inherited and complex rare diseases.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share due to its sophisticated healthcare systems, developed genomics infrastructure, and widespread implementation of precision medicine. High availability of sequencing platforms, genetic testing, molecular diagnostics, and personalized therapies supports regional expansion. The presence of major pharmaceutical companies, biotechnology firms, academic institutions, and favorable regulatory conditions also strengthens adoption. The United States particularly contributes to North American dominance through advanced healthcare facilities, extensive research activity, and growing incorporation of pharmacogenomic information into clinical treatment and decision-making.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR as healthcare systems modernize and precision medicine adoption expands. Improvements in genomic testing infrastructure, diagnostic capabilities, and research activities are creating favorable conditions for market development. Increasing chronic disease burdens and rising healthcare spending are encouraging demand for individualized therapies. Government support, pharmaceutical industry participation, and partnerships among healthcare institutions and technology providers are

additionally promoting wider implementation of pharmacogenomic testing and personalized treatment approaches throughout Asia Pacific.

Key players in the market

Some of the key players in Personalized Medicine & Pharmacogenomics Market include F. Hoffmann-La Roche Ltd. (Roche), Illumina, Inc., Thermo Fisher Scientific Inc, Pfizer Inc., Novartis, Myriad Genetics, Inc., Foundation Medicine, Guardant Health, Quest Diagnostics, Labcorp, Tempus AI, Inc., 23andMe, Vertex Pharmaceuticals, Bristol-Myers Squibb, BioMarin Pharmaceutical, CSL Behring, Kite Pharma and Janssen Biotech.

Key Developments:

In December 2025, Pfizer Inc. announced it has entered into an exclusive global collaboration and license agreement with YaoPharma, a subsidiary of Shanghai Fosun Pharmaceutical (Group) Co., Limited, a leading innovation-driven global healthcare company, for the development, manufacturing and commercialization of YP05002, a small molecule glucagon-like peptide 1 (GLP-1) receptor agonist currently in Phase 1 development for chronic weight management.

In October 2025, Thermo Fisher Scientific Inc. has agreed to acquire Clario Holdings Inc., a provider of digital endpoint data solutions for clinical trials. The deal includes potential additional earnout and other payments contingent on future performance. Clario's platform integrates clinical trial endpoint data from devices, sites, and patients, enabling pharmaceutical and biotechnology companies to digitally collect, manage, and analyze clinical evidence across all phases of drug development.

In May 2025, Novartis has signed a strategic agreement with Shanghai Pharma to help sell the Swiss company's mature ophthalmic products in China. Novartis will leverage Shanghai Pharma's omni-channel integrated marketing services and broad market coverage capabilities to accelerate the reach of some Novartis drugs for ocular infections and glaucoma in smaller territories not currently targeted by Novartis.

Products Covered:

Pharmacogenomic Testing Kits

Genetic Sequencing Platforms

Companion Diagnostics

Personalized Therapeutics

Clinical Decision Support Tools

Bioinformatics & Data Analytics Solutions

Technologies Covered:

Next-Generation Sequencing (NGS)

Polymerase Chain Reaction (PCR)

Microarray Analysis

Mass Spectrometry

CRISPR & Gene Editing Tools

Applications Covered:

Oncology

Cardiovascular Diseases

Neurological Disorders

Infectious Diseases

Rare & Genetic Disorders

End Users Covered:

Hospitals & Clinics

Diagnostic Laboratories

Research & Academic Institutes

Pharmaceutical & Biotechnology Companies

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

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