

Precision Medicine Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031)

Industry: Healthcare (Pharma, Medical Devices, Biotech)

URL: <https://www.mordorintelligence.com/industry-reports/precision-medicine-market>

Precision Medicine Market Size and ShareMarket OverviewStudy Period | 2020 - 2031 |

Market Size (2026) | USD 125.71 Billion |

Market Size (2031) | USD 237.28 Billion |

Growth Rate (2026 - 2031) | 13.58 % |

Fastest Growing Market | Asia-Pacific |

Largest Market | North America |

Market Concentration | Medium |

Major Players*Disclaimer: Major Players sorted in no particular order

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Precision Medicine Market Analysis by Mordor IntelligenceThe Precision Medicine Market size is projected to expand from USD 110.68 billion in 2025 and USD 125.71 billion in 2026 to USD 237.28 billion by 2031, registering a CAGR of 13.58% between 2026 to 2031.

Precision biomarker approvals are accelerating because regulators now evaluate data in real time, cutting review cycles and giving drug-diagnostic pairs an earlier commercial window. Industry momentum is reinforced by national genome initiatives that lower discovery costs, by AI-driven diagnostic tools that continuously update using real-world data, and by falling oligonucleotide synthesis cycle times that enable personalized vaccines to be produced same-day. Competition is diverging between platform integrators that monetize data at scale and focused to vendors that offer best-in-class analytics. Meanwhile, diverging data-sovereignty rules create both compliance costs and regional arbitrage opportunities.

Key Report Takeaways* By technology, next-generation sequencing held 35.55% of the precision medicine market share in 2025; AI and machine-learning tools are expanding at a 17.85% CAGR through 2031.

* By application, oncology led with 40.53% revenue in 2025, while rare and genetic disorders are forecast to expand at a 15.75% CAGR to 2031.

* By end user, pharmaceutical and biotechnology companies accounted for 45.15% spending in 2025; home-care settings are advancing at a 15.82% CAGR through 2031.

* By geography, North America accounted for 42.55% of revenue in 2025, whereas Asia-Pacific is projected to grow at a 14.72% CAGR between 2026 and 2031.

Note: Market size and forecast figures in this report are generated using Mordor Intelligence's proprietary estimation framework, updated with the latest available data and insights as of 2026.

Market Trends and InsightsDrivers Impact Analysis of Precision Medicine Market*Driver | (~) % Impact on CAGR Forecast | Geographic Relevance | Impact Timeline |

National Genomic Initiatives Accelerating R&D Funding | +2.3% | Global, with concentration in US, UK, China, India, Japan | Medium term (2-4 years) |

Integration of AI & Machine Learning in Genomics | +3.2% | North America & Europe, expanding to Asia-Pacific | Short term (≤ 2 years) |

Advancement in Cancer Biology Expanding Biomarker Pipeline | +2.7% | Global, led by US and Europe | Medium term (2-4 years) |

Rapid Decline in Oligo-Synthesis Cycle Times Enabling Same-Day Therapies | +1.4%
| North America & Europe, emerging in Asia-Pacific | Short term (≤ 2 years) |
Emergence of Digital Biobanks Monetizing Multi-Ethnic Genomic Data | +1.1% | Glo-
bal, early leadership in US, UK, China | Long term (≥ 4 years) |
FDA Real-Time Oncology Review Shortening Approval Cycles | +1.9% | North America
, spillover to EU & Japan | Short term (≤ 2 years) |
Source: Mordor Intelligence |

National Genomic Initiatives Accelerating R&D FundingGovernment-backed genome pr-
ograms de-risk biomarker discovery by providing large, well-phenotyped cohorts.
The UK Biobank's release of 500,000 exomes in 2024 enables drug developers to ru-
n in silico target validation before clinical investment[1].National Institutes
of Health, "Researcher Workbench Usage Statistics 2025," Allofus.nih.gov India s
equenced 10,000 individuals from 99 ethnic groups, revealing 135 million variant
s absent from Western data sets and opening licensing avenues for South-Asian-sp
ecific therapies further diversifying the global precision medicine market oppor-
tunity. Japan enrolled 200,000 citizens to generate polygenic risk scores that w-
ill feed precision underwriting products. In the United States, the All of Us cl-
oud workbench processed 18,500 research queries in 2025, 42% of which were from
non-US scholars, demonstrating that open-access design multiplies knowledge with-
out linear increases in cost[2]National Institutes of Health, "Researcher Workbe-
nch Usage Statistics 2025," Allofus.nih.gov. China's USD 9.2 billion Precision M-
edicine Initiative is funding provincial biobanks, making its data environment t-
he largest outside the US.

Integration of AI & Machine Learning in GenomicsRegulatory clarity has turned ad-
aptive algorithms into mainstream diagnostics. FDA guidance issued in January 20
24 permits locked-algorithm devices to refresh their models using real-world evi-
dence without a new 510(k), cutting maintenance costs and maintaining sensitivit-
y above 95%. Paige AI received clearance that same year for a prostate cancer gr-
ading model that is retrained quarterly. BGI rolled out AI-based software across
300 Chinese hospitals, slashing the time to rare-disease diagnosis from 45 days
to 7 days. Foundation Medicine embedded generative AI to infer tumor mutational
burden from panel data, eliminating whole-exome sequencing and cutting costs by
40%. Tempus AI's USD 6.1 billion IPO underscores investor belief in data-native
platforms that integrate clinic, image, and omics layers, reinforcing confidenc-
e in scalable models across the precision medicine market.

Advancement in Cancer Biology Expanding Biomarker PipelineMulti-analyte diagnost-
ics are fragmenting oncology into micro-segments with narrow but lucrative reimb-
ursement. FDA cleared 23 companion diagnostics in 2024, 14 of which require NGS
panels rather than single-gene assays. AstraZeneca's Tagrisso gained a label ext-
ension for a mutation found in 2% of lung cancers, illustrating high-price struc-
tures achievable when cohorts are molecularly defined. Bristol Myers Squibb's US
D 4.1 billion RayzeBio buy adds radiopharmaceutical assets that bundle drug and
imaging diagnostics in a single value proposition. Liquid biopsy adoption surged
after Guardant's Shield became the first blood-based colorectal screening assay
for average-risk adults, expanding the testable population from 150,000 patient
s to 50 million asymptomatic individuals.

FDA Real-Time Oncology Review Shortening Approval CyclesThe Real-Time Oncology R-
eview pathway cut median approval to 4.3 months in 2025, versus 10 months previo-
usly, by letting reviewers examine rolling data. Mirati used RTOR to bring adagr-
asib to market six months early, booking USD 180 million in first-year sales, 40
% above forecasts. Novartis partnered with Illumina on a pan-cancer panel that w-
ill accompany all targeted therapies submitted under RTOR, standardizing biomark-
er testing at launch. The EMA mirrored the scheme with the PRIME pathway, cappin-
g review at 150 days.

Restraints Impact Analysis of Precision Medicine Market*Restraint | (~) % Impact
on CAGR Forecast | Geographic Relevance | Impact Timeline |
Fragmented Cross-Border Multi-Omics Data Regulations | -1.6% | Global, acute in
EU-Asia and US-China flows | Long term (≥ 4 years) |

High Cost & Limited Accessibility of Genetic Testing | -1.8% | Emerging markets, rural areas in developed economies | Medium term (2-4 years) |
Shortage of Clinical Geneticists Limiting Interpretation Capacity | -1.1% | Global, most severe in US & Europe | Medium term (2-4 years) |
Rising Cyber-attacks on Genomic Clouds Elevating Liability Risks | -0.7% | Global, heightened in North America & Europe | Short term (≤ 2 years) |
Source: Mordor Intelligence |

Fragmented Cross-Border Multi-Omics Data RegulationsChina's 2024 Human Genetic Resources rules require foreign firms to keep Chinese genomes onshore, prompting costly duplication of infrastructure and delaying multi-country trials across the precision medicine industry. The EU's GDPR bars transfers to non-adequate jurisdictions, making U.S. biobanks negotiate standard clauses that add legal overhead[3]European Commission, "Adequacy Decisions," Ec.europa.eu. Illumina recorded USD 45 million in compliance outlays and eight-month launch delays in Europe during 2025. India's 2024 Digital Personal Data Protection Act requires local storage of sensitive genomic information, compelling new data-center spending for international labs, limiting broader clinical adoption and slowing equitable expansion across the precision medicine industry.

High Cost & Limited Accessibility of Genetic TestingSequencing dipped to USD 600 per genome in 2025, yet clinical interpretation ranges from USD 1,200 to USD 3,000, pricing tests beyond self-pay segments in upper-middle-income economies[4]Nature Biotechnology, "Whole-Genome Sequencing Cost Analysis 2025," Nature.com . Only 212 new clinical geneticists were certified globally in 2024, producing six-month wait times for rural U.S. patients. 23andMe's 2025 restructuring, which cut 40% of staff, underscores the challenge of sustaining direct-to-consumer offerings when customer acquisition exceeds lifetime value. Even in rich markets, coverage gaps persist: Medicare reimburses hereditary cancer tests but excludes polygenic risk scores for cardiac disease.

*Our forecasts treat driver/restraint impacts as directional, not additive. The impact forecasts reflect baseline growth, mix effects, and variable interactions .

Precision Medicine Market Segment AnalysisBy Technology:AI Reshapes Interpretation EconomicsNext-generation sequencing generated 35.55% of the precision medicine market revenue in 2025, backed by an installed base of 25,000 Illumina sequencers and aggressive low-cost bids from BGI. AI-based analytics are forecast to outgrow every other category at 17.85% CAGR, benefiting from the FDA's streamlined change-control plan. Big-data platforms are shifting to cloud-native architectures, as illustrated by Tempus AI's valuation and the widespread adoption of the All of Us federated workbench. Companion diagnostics remain essential but face bundling pressure that pushes revenue recognition into therapy royalty streams. Proteomics and metabolomics add orthogonal layers that raise predictive power; SOMAlogic's 7 k-protein panel reduces false positives in polygenic scoring by 30% .

Image © Mordor Intelligence. Reuse requires attribution under CC BY 4.0. By Application:Oncology Dominance Masks Rare-Disease VelocityOncology accounted for 40.53% of application revenue in 2025, as Medicare coverage widened and 17 biomarker-linked therapies entered the U.S. market. Rare and genetic disorders, however, exhibit the fastest growth rate at 15.75% CAGR, propelled by gene therapies such as Lyfgenia, which carries a USD 3.1 million price tag and requires confirmatory genetic testing. Neurology's momentum rests on Alzheimer's diagnostics bundled with amyloid-targeted drugs, while cardiology blends polygenic risk screening with pharmacogenomic dosing, now used by 15% of U.S. cardiology practices. Infectious-disease precision approaches are commercially available only for hospital-acquired infections; metabolic uses remain newborn-screening-centric, collectively reinforcing oncology's structural dominance in the precision medicine market. .

By End User:Home-Care Disruption Challenges Lab IncumbentsPharma and biotech companies accounted for 45.15% of spending in 2025 due to mandatory companion diagnostic programs. Home-care channels are rising at 15.82% CAGR as ancestry and wellness kits bypass hospital labs. Yet 23andMe's cost-of-customer paradox shows that scale alone does not guarantee profitability. Diagnostic laboratories fight reimbursement compression by slashing panel prices, evidenced by Labcorp's USD 99 pharmacogenetic offer.

Image © Mordor Intelligence. Reuse requires attribution under CC BY 4.0.

Geography AnalysisThe Americas, APAC and EMEA Precision Medicine MarketNorth America accounted for 42.55% of the precision medicine market revenue in 2025, driven by comprehensive profiling, reimbursement, and the All of Us dataset. Canada standardized coverage for 12 drug-gene pairs in 2025, speeding national adoption. Asia-Pacific, however, is predicted to deliver the fastest growth at a 14.72% CAGR, powered by China's multibillion-dollar initiative and rapid AI rollout, which cut diagnostic turnaround from 45 days to 7 days. India's 10,000-genome cohort introduces 135 million novel variants, while Japan's cardiovascular focus targets insurer-backed underwriting products. Australia achieves 90% public coverage in rare disease testing but remains volume-limited by population size. Europe shows intra-regional variability: the U.K. shortened rare-disease diagnoses to 14 days under the NHS, whereas Germany still wrestles with 16 state payers. Saudi Arabia's 100,000-genome plan leads the Middle East, while South Africa's capability remains limited to three clinical-grade sequencing labs. South America builds slowly; Brazil covers hereditary cancer testing but not pan-omic assays.

Mordor Intelligence provides coverage of the precision medicine market across other key regional markets, including North America and Europe, each with their regulatory frameworks and demand patterns. Detailed country-level analysis extends to China incorporating local coverage and market participation, as required.

Regulatory LandscapeRegulators are formalizing pathways for individualized and biomarker-led therapies, along with software-driven diagnostics that update over time. In February 2026, the US FDA released a draft guidance on using a Plausible Mechanism Framework to support development of individualized therapies for specific genetic conditions with a known biological cause. This framework is intended to align evidentiary expectations for ultra-rare populations while maintaining a structured benefit-risk bar.

In Europe, the European Medicines Agency (EMA) continues to operationalize qualification routes for novel methodologies used in precision-medicine development. In June 2026, EMA updated its procedural guidance on Qualification of novel methodologies (QoNM), explicitly linking method qualification and related software considerations to an evolving compliance stack that includes the EU AI Act alongside MDR and IVDR. The updated framing keeps multi-omics, biomarker strategies, and AI-enabled methods tied to defined qualification and device pathways rather than ad hoc validation.

Competitive Landscape

The precision medicine market shows moderate concentration: the top five players held a significant share of global revenue in 2025, too low for dominance but high enough to influence standards. Illumina's hardware edge is eroding as BGI and Element Biosciences roll out sub-USD 500 genomes that undercut legacy price points. Platform firms such as Tempus AI aggregate clinical, image, and omic data

for predictive modeling, whereas specialists like Guardant Health focus on liquid biopsies that now target screening populations after Shield’s 2024 FDA clearance. AI leaders file escalating patent volumes. Illumina filed 47 machine-learning patents in 2024, up from 12 a year earlier. First-mover advantages accrue to companies obtaining Breakthrough Device designations, which cut market entry by roughly 18 months. White space remains in pharmacogenomics, where test penetration precedes actionable variants in only 1 in 10 U.S. prescriptions.

Precision Medicine Industry Leaders* Pfizer Inc.

- * Thermo Fisher Scientific Inc.
- * Novartis AG
- * Qiagen N.V.
- * Illumina Inc.

* *Disclaimer: Major Players sorted in no particular order
Image © Mordor Intelligence. Reuse requires attribution under CC BY 4.0. Precision Medicine Market Companies Covered in this Report* 23andMe Holding Co.
* Adaptive Biotechnologies Corp.
* Agilent Technologies
* AstraZeneca
* BGI Genomics Co. Ltd.
* Biogen
* Bristol-Myers Squibb
* Caris Life Sciences
* CRISPR Therapeutics AG
* Roche
* Flatiron Health
* Foundation Medicine Inc.
* Guardant Health
* Illumina
* Laboratory Corp. of America Holdings (Labcorp)
* Merck
* Myriad Genetics
* Novartis
* Personalis Inc.
* Pfizer
* QIAGEN
* Tempus Labs Inc.
* Thermo Fisher Scientific

Read Analysis of Precision Medicine Companies

Market Opportunities and Future Outlook

Policy and public-infrastructure signals are expanding the addressable scope for precision medicine, moving beyond specialty use toward population-scale programs and more standardized data exchange. In May 2026, the World Health Assembly endorsed a resolution on precision medicine and tasked WHO with developing a Global Strategy on Precision Medicine, which sets a clearer forum for national implementation roadmaps that connect genomics, AI, and equitable access priorities.

Commercial whitespace is widening in early cancer detection and in the operational layer that turns multi-omics into deployable clinical workflows, including automation, distributed sequencing, and evidence packages that support reimbursement. Evidence includes GRAIL reporting NHS-Galleri trial results at the May 2026 ASCO Annual Meeting, with a reported 14% reduction in Stage IV diagnoses for a pre-specified group of cancers, along with multiple 2026 launches and readouts (f

or example, Roche introducing the AXELIOS 1 sequencing platform in June 2026, and Caris Life Sciences launching the Caris Detect multi-cancer early detection blood test in July 2026). At the same time, data-access and collaboration models are becoming more central to drug discovery, illustrated by Helix entering a multi-year agreement with AstraZeneca in July 2026 to provide access to GenoSphere cohorts for genomic research.

Recent Industry Developments in Precision Medicine Market* July 2026: Novartis agreed to acquire Myricx Bio for USD 1.1 billion upfront plus milestone payments to add a differentiated antibody-drug conjugate payload class (N-myristoyltransferase inhibitor, NMTi) to its oncology innovation engine. The acquisition supports drug-development programs that rely on biomarker-led patient selection and reinforces demand for companion testing and integrated translational data workflow S.

* May 2026: Roche entered a definitive merger agreement to acquire PathAI for USD 750 million upfront plus milestones, aiming to integrate AI-enabled digital pathology capabilities into Roche Diagnostics. The deal strengthens the linkage between tissue-based diagnostics and therapy development, supporting higher-throughput biomarker discovery and more standardized pathology-driven decision support in oncology trials and clinical practice.

* April 2026: Thermo Fisher Scientific announced a strategic collaboration with Precision Health Research, Singapore (PRECISE) to advance the PRECISE-SG100K study, a population-scale biobank initiative targeting more than 100,000 participants. The partnership expands proteomics and genomics data generation at cohort scale, supporting multi-omics evidence development that underpins precision-medicine biomarkers and real-world validation.

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Precision Medicine Market Report Scope and Research Methodology

Market Definition and Coverage This market is defined as revenues generated from precision medicine technologies and solutions that support patient-level diagnosis, stratification, and targeted treatment decisions, including related services used across clinical and research settings.

Scope exclusions: We exclude general, non-personalized care pathways and broad healthcare IT tools that are not primarily used to enable precision medicine decisions.

Segments Covered in This Report* By Technology* Big Data Analytics

- * Bioinformatics
- * Next-Generation Sequencing (NGS)
- * AI & Machine Learning
- * Companion Diagnostics
- * Genomics
- * Proteomics
- * Metabolomics
- * Epigenomics
- * Transcriptomics

- * By Application* Oncology
- * Neurology (CNS)
- * Immunology
- * Cardiology
- * Infectious Diseases
- * Respiratory
- * Rare & Genetic Disorders

- * Metabolic Disorders
- * Other Indications
- * By End User* Pharmaceutical & Biotechnology Companies
- * Diagnostic Laboratories
- * Hospitals & Clinics
- * Academic & Research Institutes
- * Contract Research Organisations (CROs)
- * Healthcare IT & Bioinformatics Firms
- * Home-care Settings
- * By Geography* North America* United States
- * Canada
- * Mexico
- * Europe* Germany
- * United Kingdom
- * France
- * Italy
- * Spain
- * Rest of Europe
- * Asia-Pacific* China
- * India
- * Japan
- * Australia
- * South Korea
- * Rest of Asia-Pacific
- * Middle East and Africa* GCC
- * South Africa
- * Rest of Middle East and Africa
- * South America* Brazil
- * Argentina
- * Rest of South America

Data Sources, Market Sizing, and ValidationDesk Research

Desk work started with pinning down demand signals that can be tracked consistently across countries and disease areas. We used public sources such as the US FDA databases for approvals and companion diagnostic references, CDC and NIH publications for disease burden and genomics programs, and OECD and World Bank indicators for healthcare spending context.

To avoid building the model on one narrow data stream, we also reviewed sources such as WHO materials, ClinicalTrials.gov for pipeline direction, and peer-reviewed journals that discuss sequencing adoption and biomarker testing practices. Company annual reports, investor presentations, earnings call transcripts, association websites, and reputed press were used to cross-check strategy shifts, pricing narratives, and capacity additions. In parallel, selected paid subscriptions were used for company financials and intelligence, news and financials, and patent databases to strengthen coverage where public disclosures were thin. These examples are illustrative, and other sources were also referred to for data collection, validation, and research clarification.

Primary Interviews and Surveys

Primary work was used to pressure-test desk assumptions around what gets counted as precision medicine revenue, and what is better treated as adjacent healthcare spending. We spoke with a mix of test providers, healthcare delivery stakeholders, pharma and biotech teams, and technology and services specialists, and then

used those inputs to fine-tune adoption rates, pricing progression, and mix shifts across major regions.

Distribution of primary research fieldwork respondents

Company type | Respondent position | Region |
Top tier: 37% | CXOs: 16% | APAC: 41% |
Mid tier: 43% | Functional/Unit leaders: 25% | EMEA: 36% |
Smaller Players: 20% | Managers: 59% | Americas: 23% |

Market-Sizing & ForecastingThe core model uses a top-down approach where treated patient pools and testing intensity are reconstructed by indication, and then translated into value using typical test and solution pricing in each region. Once that backbone was set, we corroborated totals with selective bottom-up approximations such as sampled volume times ASP checks for key testing workflows, along with supplier and channel conversations to adjust for real-world utilization.

A few of the practical inputs used in the model include oncology and rare disease testing penetration, the mix shift between sequencing and other advanced molecular methods, companion diagnostics linkage to therapy uptake, average selling price movement for testing panels, and the pace of clinical adoption in hospitals and diagnostic labs. Where bottom-up visibility was incomplete, gaps were handled by applying conservative ranges for adoption and pricing, and then narrowing them using primary feedback on utilization and purchasing patterns.

For forecasting, scenario analysis was used because the market is sensitive to regulatory approvals, reimbursement changes, and the speed of clinical guideline updates. The scenarios were anchored to consensus views gathered during interviews on how quickly genomic testing and biomarker-led treatment pathways are expected to expand across regions and care settings.

Data Validation & Update CycleOutputs were checked against independent signals such as public approvals and diagnostics references, clinical trial momentum by disease area, and broad healthcare spend capacity to ensure the numbers stayed realistic. Large variances triggered a deeper review of the drivers, followed by re-checking the underlying assumptions and, when needed, re-contacting industry participants for clarification.

Before sign-off, results go through multi-step analyst reviews where outliers are tested, calculation logic is re-run, and key assumptions are compared across regions for consistency. Reports are refreshed annually, and interim updates are made when material events occur, such as major policy shifts or step-changes in adoption. Right before delivery, a final pass is completed so clients receive the most current view available at that time.

Mordor Intelligence's Precision Medicine Market Size Measured Against Other Published EstimatesPublished market sizes for precision medicine often differ because the scope line is drawn differently, and the demand drivers chosen can push the model in separate directions. The biggest swings usually come from what is counted as precision medicine revenue versus adjacent healthcare spending, plus how fast pricing and adoption are assumed to move.

The main gap comes from whether broad drug revenues and generalized care delivery are bundled into the total, and how Mordor Intelligence counts precision medicine only when the revenue is tied to patient stratification and targeted decision support signals (such as biomarker testing intensity and sequencing-led workflow adoption), instead of treating all specialty therapy value as in-scope.

Benchmark comparison

Source | Market Size | Gaps in Research Methodology |
Mordor Intelligence | USD 125.71 B (2026) | |

Global Consultancy A | USD 119.03 B (2025) | Uses a different base year and often blends additional product and drug categories into the definition, which can compress the gap between diagnostics-led value and broader therapeutic revenues.

Trade Publisher B | USD 87.91 B (2025) | Applies factory-gate style revenue framing and a narrower end-use capture, which can undercount downstream services and clinical workflow spending that still supports precision medicine decision-making.

The spread across the three figures is mostly explained by timing (2025 versus 2026) and what gets included as precision medicine value versus adjacent care. When the model is tied to clear usage signals like testing penetration, sequencing mix, and companion diagnostics linkage, the resulting total is easier to trace and repeat as new data comes in.

Key Questions Answered in the Report What is the expected value of the precision medicine market in 2031? It is forecast to reach USD 237.28 billion by 2031 based on a 13.58% CAGR from 2026.

Which technology segment is growing fastest within precision medicine? AI and machine-learning tools are advancing at a 17.85% CAGR, outpacing all other technologies.

Why is Asia-Pacific considered the most dynamic region for precision medicine? China's USD 9.2 billion national initiative and rapid adoption of AI-enabled interpretation drive the region's 14.72% CAGR.

How did FDA's Real-Time Oncology Review affect drug approvals? The pathway reduced median approval time to 4.3 months in 2025, roughly halving previous timelines.

Which application area beyond oncology shows notable growth? Rare and genetic disorders are expanding at a 15.75% CAGR as high-value gene therapies reach market.

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