

# Next-generation Sequencing: Emerging Clinical Applications and Global Markets

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## Abstracts

### Report Scope:

The scope of the report includes clinical NGS technologies, applications, industries, initiatives, patents, and companies. The markets for NGS-based diagnostics are given for the years 2020, 2021, 2022, 2023 and 2028.

This report reviews the main sequencing technologies and explains why genetic variation is important in clinical testing. It then discusses some of the significant research initiatives that impact clinical NGS applications. Liquid biopsy formats are discussed. The main market driving forces are also discussed.

The report examines the markets by test complexity, clinical indication and test purpose. Test complexity refers to the plex level (i.e., the number of genetic markers that can be analyzed within a sample) and coverage (e.g., the extent to which the genome is covered) of the test. Examining the market by test complexity provides valuable insight into which products (e.g., sample preparation, NGS instrument, informatics, etc.) will be in demand in the future.

The report provides market data and forecasts for NGS diagnostics by specific applications, including those for oncology, cardiovascular diseases, clinical microbiology/infectious diseases, Mendelian disorders, metabolic/immune disorders, neurological disorders, reproductive health, and transplant medicine.

Specific geographic markets are discussed, namely North America, Europe, Asia-Pacific, and the Rest of the World.

Industry sectors analyzed include DNA sequencing instruments; long-read sequencing; sequencing informatics; target enrichment; CTC capture and detection; liquid biopsy; cancer screening/early detection; direct-to-consumer testing; and noninvasive prenatal testing.

More than 100 companies in the clinical NGS industry are profiled in this report.

BCC Research also provides a summary of the recent, primary industry acquisitions and strategic alliances, including key alliance trends.

Report Includes:

41 data tables and 237 additional tables

An overview of the global market for emerging clinical applications of next-generation sequencing

Analysis of global market trends, featuring historical revenue data for 2020 to 2022, estimates for 2023, as well as forecasts for 2028, including projections of compound annual growth rates (CAGRs) through 2028

Evaluation of the current market size and revenue growth prospects, accompanied by a market share analysis by disease indication, test complexity, test purpose, application and geographic region

Discussion of market opportunities for clinical NGS products, clinical applications, industry structure, regulatory scenarios and use of NGS-based diagnostics and technologies

Coverage of genome mapping programs, technological advances and innovations in NGS platforms, and the Ion Torrent Genexus System from Thermo Fisher Scientific and the Magnis NGS Prep System from Agilent Technologies Inc

Description of NGS-oriented tests such as non-invasive prenatal testing (NIPT) and pre-implantation genetic testing (PGT), and a discussion of their advantages

Market share analysis of the key companies and a look at their proprietary technologies, strategic alliances and other key market strategies, plus a patent

analysis

Profiles of the leading players, including Illumina Inc., Thermo Fisher Scientific Inc., QIAGEN, Agilent Technologies Inc., and BGI Genomics

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