

## **What is the market size, trends, major players for India Oncology NGS Market?**

- The India oncology NGS market was USD 19.71 million in 2021.
- The implementation of cloud-based solutions in clinical research, hospitals, and biotech companies is expected to simplify the process of handling a diverse set of NGS-generated data. The growing demand for user-friendly sequencing processes as well as cost-effective solutions contributes to the technology's increasing acceptance rate in India. The availability of a genomic database for the Indian population facilitates the development of companion diagnostics and tailored therapy and access to stratified samples for study. According to the WHO, 851,678 deaths and over 1,324,413 cancer cases were documented in India in 2020. With a revenue share of 74% in 2020, the targeted & gene panel sequencing segment dominated the market.
- Targeted sequencing has the smallest read lengths and holds the biggest market share. This is because it has a higher penetration rate and has been present in the market for a longer period of time than other sequencing technologies. Targeted sequencing panels are predicted to remain the workhorse of cancer molecular diagnostics, with heme malignancies and solid tumours being routinely diagnosed. Private companies in India that provide genomic mapping have also ventured into diabetes and cancer risk prediction testing. These tests may cost between USD 350 and USD 700. These genetic tests, however, do not guarantee an accurate or comprehensive result.
- The National Institute of Biomedical Genomics in India will complete dbGENVOC in July 2021. It is a repository for genetic variants in oral cancer. The Department of Biotechnology in India is funding the initiative to develop a robust search engine for bioinformatics analysis. It involves a significant amount of data, including over 24 million germline and somatic variations generated from whole-exome and whole-genome sequences.
- Clever gene professionals claimed in October 2021 that India has significant potential for genomics because it is a fresh and rising market. In 2015, there were primarily two to three participants, but by 2021, there will be approximately 13 to 14 primary players in the Indian market, with approximately three to four organisations having an ideal level of capacity and infrastructure to undertake Next Generation Sequencing (NGS) processes.

## **Market Drivers**

- The development of companion diagnostic assays for personalised medicine, rising acceptance of sequencing platforms for cancer diagnosis, and increased investment in genetic database creation are the primary drivers of market expansion.
- Rise in cancer incidence in India is expected to be a high impact rendering driver of the market.

## **Market Barriers:**

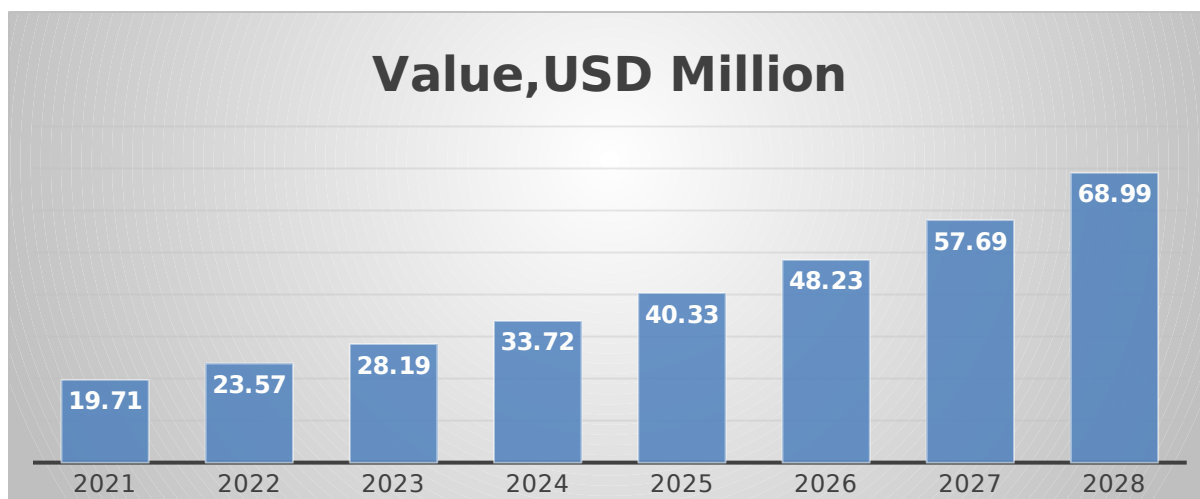
- The high-cost technology has been observed to restrain the market growth.

## **Market Trends:**

The use of next-generation sequencing (NGS) in cancer research, specifically in the discovery of new cancer-related genes, the investigation of tumour heterogeneity, and the identification of changes that lead to tumorigenesis is the growing trend observed in the target segment.

## **Forecast:**

- India's oncology NGS market is growing at the rate of 19.6 % from 2021 to 2028.



### IMPACT OF COVID-19 on India Oncology NGS Market

- The COVID-19 pandemic and subsequent lockdowns have harmed cancer treatment and research in India. The pandemic's unpredictability introduced new hazards for cancer patients by disrupting oncology therapy delivery as well as research continuity. According to various study reports, cancer screening appointments dropped by over 80% in March and April 2020. Even after the use of sequencing for oncology was reduced, sequencing platforms were employed in India to analyse SARS-CoV-2 for viral illness. The COVID-19 pandemic wreaked havoc on the next-generation sequencing supply chain, delaying a number of projects. For example, Illumina faced a shortage of reagent raw materials, resulting in reagent delivery delays of weeks rather than days. Similarly, significant Next Generation Sequencing (NGS) resources from cancer development were transferred to the COVID-19 research. Without any prior knowledge of the infection, next-generation sequencing technology was able to analyse many samples and identify the virus. It was also utilised for surveillance and epidemiological research. Although oncology NGS was not a very active category at COVID-19, the total demand for NGS products will influence market pricing.

### PEST Analysis

**Political:** The government's attempt to include cancer treatment under Ayushman Bharat and other publicly funded insurance programmes ought to be helpful in future.

**Economical:** Increased outpatient procedures, as well as economic growth aided by expanded insurance coverage. The highly contagious coronavirus is having an economic impact on a variety of industries.

**Social:** Local as well as global awareness of life-threatening diseases such as Cancer , CVD and many more .

**Technological:** With the help of cutting edge technology India is now concentrating on the creation and research of new products and technologies in NGS .

### **Major Players:**

- Illumina Inc
- Genotypic Technology Pvt. Ltd.
- Tecan Trading AG
- SciGenom Labs Pvt. Ltd.
- Xcelris Labs Ltd.
- Eurofins Scientific
- Sayre Therapeutics
- Redcliffe Lifesciences
- Bio-Rad Laboratories

### **Conclusion:**

- In 2021, the targeted & gene panel sequencing sector had the lion's share of the market because targeted panels offer affordable alternatives for

giving clinicians clear and actionable information. Due to the growing use of NGS technology for cancer research in India, the research studies category accounted for a sizable portion of applications in 2021.

- Due to rising oncology screening recommendations and the high adoption rate of NGS-based molecular cancer detection, the diagnostics and screening segment is predicted to develop. By 2028, the platforms and related goods market is anticipated to have the largest revenue share. The adoption rate in this market is being driven by ongoing research to assess the efficacy of various targeted NGS gene panels in terms of their technical characteristics and clinical value.
- Since sequencing is the most important stage of the workflow, it was the market leader in 2020 and is predicted to continue growing at the quickest rate from 2021 through 2028. Due to the application of NGS in cancer research, especially in the discovery of novel cancer-related genes, analysing tumour heterogeneity, and identification of changes that contribute to carcinogenesis, the clinical research category is anticipated to expand at the fastest CAGR from 2021 to 2028.

Research is being done now to assess the efficiency of several tailored NGS gene panels in terms of their technical aspects and clinical value. The most crucial stage of the procedure, NGS sequencing, accounted for the highest percentage in 2021 (54.5%). Thermo Fisher Scientific's Ion Torrent and a few systems from Illumina, such as the HiSeq X series, MiSeq, MiniSeq, NovaSeq, iSeq, and NextSeq, are among the platforms that are often used for sequencing. The third and last stage of evaluating NGS data, known as tertiary data analysis, deals with the crucial problem of giving meaning to the raw data. Due to significant efforts that were taken in this sector, the tertiary analysis has produced the biggest portion of the income from NGS data analysis. The procedure involves data gathering, annotation, filtering, population structure analysis, multi-sample processing, association analysis, and exploratory analysis. The sector with the biggest revenue share in 2021—34.4%—was hospitals and clinics.

## **RECOMMENDATION FOR COMPANIES**

- It is to recommend that to increase their market presence and meet customer expectations, the operating firms are engaging in a number of strategic efforts in the area of cancer NGS, including as new product development, mergers and acquisitions, and regional growth. One of the key companies in the industry is Premas Life Sciences Pvt. Ltd. The business supplies training, software, reagents, platforms, and troubleshooting services to laboratories engaged in the field of genetic testing in India as an authorised partner of Illumina. Additionally, it offers Illumina's AmpliSeq for SARS-COV-2 Research Panel for epidemiological studies on the SARS-COV-2 virus in India. Additionally, the business distributes goods made by 10X genomics, Fluidigm, Unchained Labs, and other businesses. Initial phase cancer testing concerns in Indian hospitals and clinics have been significantly reduced as a result of the introduction of NGS-based cancer tests and panels in Asia. It is projected that the availability of on-site bioinformatics courses that involve instruction in the actual use of NGS sequencing and data analysis would increase the segment's capacity to generate income from academic research. The team from the Directorate of Public Health (DPH) and Preventive Medicine of India received next-generation sequencing training in Bengaluru in July 2021. The group is in charge of running and overseeing the NGS facility at Chennai's State Public Health Laboratory for the DPH.