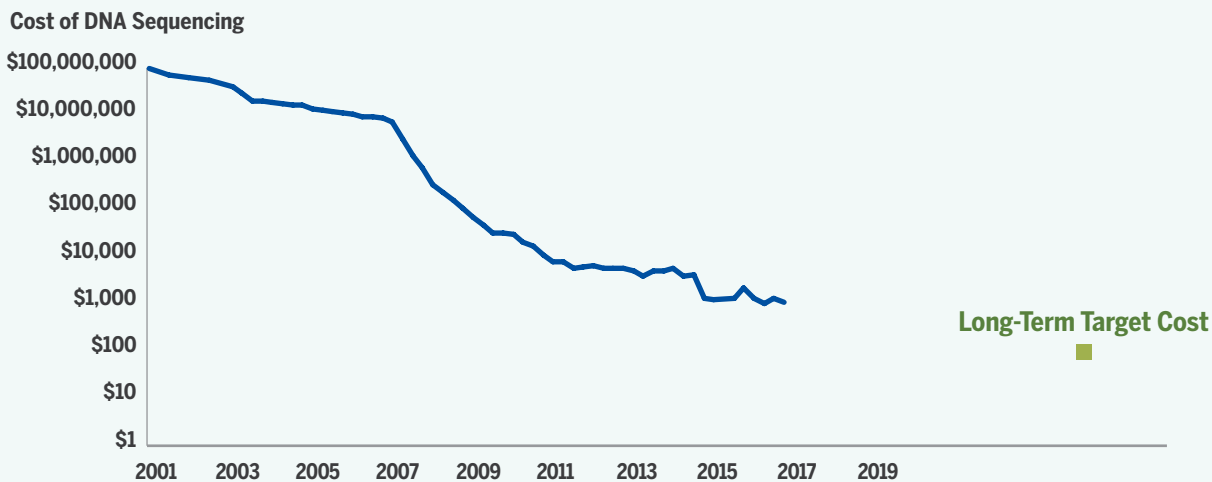


Gene Tech Opens Doors

Your genes determine more than your eye color or your physique. The propensity of you or your offspring to develop certain diseases is highly influenced by genetics. The good news is research into the genome, your complete set of genes, has started to drive huge medical breakthroughs and new drugs are regularly approved for people with rare genetic conditions. As a result investment opportunities up and down the genomic food chain are plentiful.

DNA Sequencing Gets Less and Less Expensive



Source: National Human Genome Research Institute and Illumina.

- The cost of sequencing the human genome has declined considerably since 2001. According to Illumina, the premiere provider of genetic analysis technology, its goal is to reach a \$100 cost sometime in the future. To date over 1.5 million genomes have been sequenced and studied.
- Next-generation sequencing (NGS), which allows for analysis of the genome, is reducing the costs of treatment and improving the accuracy of diagnosis and the efficacy of treatment. As NGS advances, the research and development of drugs and diagnostic tools continue to accelerate.
- Gene analysis is a priority worldwide. In the U.S. the All of Us study is geared to find genetic links to diverse diseases. Additionally, over 40 countries internationally are also analyzing the gene sequences of their citizens. These discoveries will spur even more research into diseases that can be targeted.
- Investment opportunities exist in medical tools companies that are discovering the links between genes and medical conditions, testing companies that identify genetic abnormalities and biotechnology and pharmaceutical companies that develop products to treat the diseases that stem from genetic mutations.

The following position represented the noted percentage of Alger's assets under management as of March 31, 2019: Illumina, 0.8%.

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