The Health Care Sector – Capitalising on the Promise of Genetic Science

Lauran Halpin MSc, BS
Investment Manager

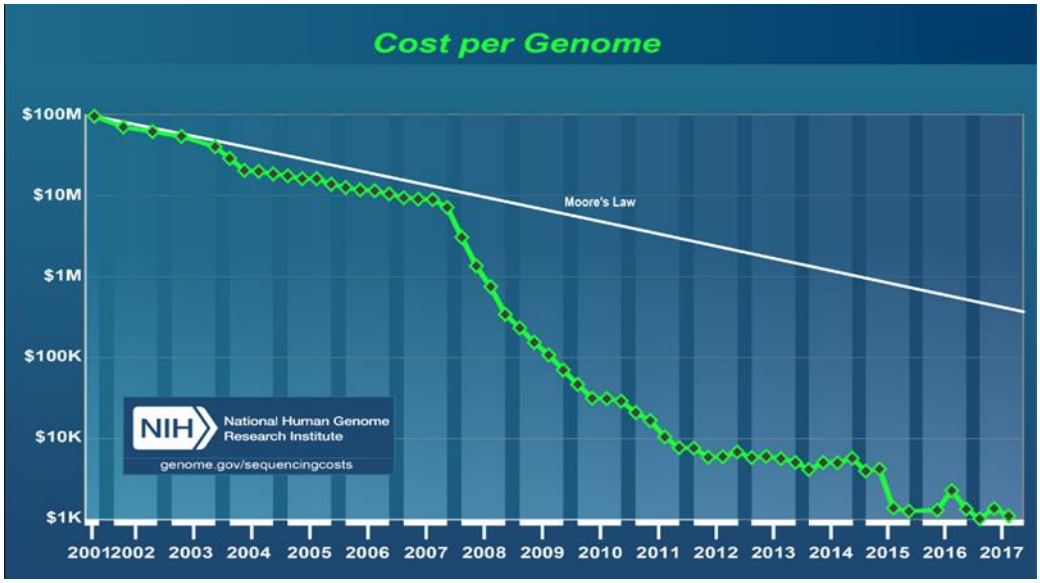
Edinburgh Partners

The Health Care Sector – Capitalising on the Promise of Genetic Science

It has been over 60 years since James Watson and Francis Crick discovered the structure of DNA, the precious molecule that contains our genetic code, and a tremendous amount of progress has been made since then in our understanding of how our cells operate, communicate with each other, pass on traits to future generations, and even how they get sick. However, it has only been fairly recently that this landmark discovery and the specialisms it created – genetics, genomics, proteomics – have allowed for large scale advances in real-world healthcare.

The turning point came in 2003 when the Human Genome Project, an international scientific research endeavour which ran from 1990 to 2003, released its completed map of the human genome – nearly all of the genetic material held in the DNA of a human's 22 chromosomes was sequenced and presented for the first time. Given that a genome is the summation of the DNA held within an individual, it can act as a vital source of information in terms of the likelihood that individual will suffer from particular diseases or succumb to specific lifestyle conditions.

Since the Human Genome Project, the cost of sequencing a human genome has dropped dramatically from nearly $100m in 2003 to roughly $1,000 today thanks to astonishing technological advances which have made sequencing quicker, simpler, and scalable. As a result of the decrease in cost, about one million people have now had their genome sequenced and this number is expected to continue to grow rapidly over the next several years.

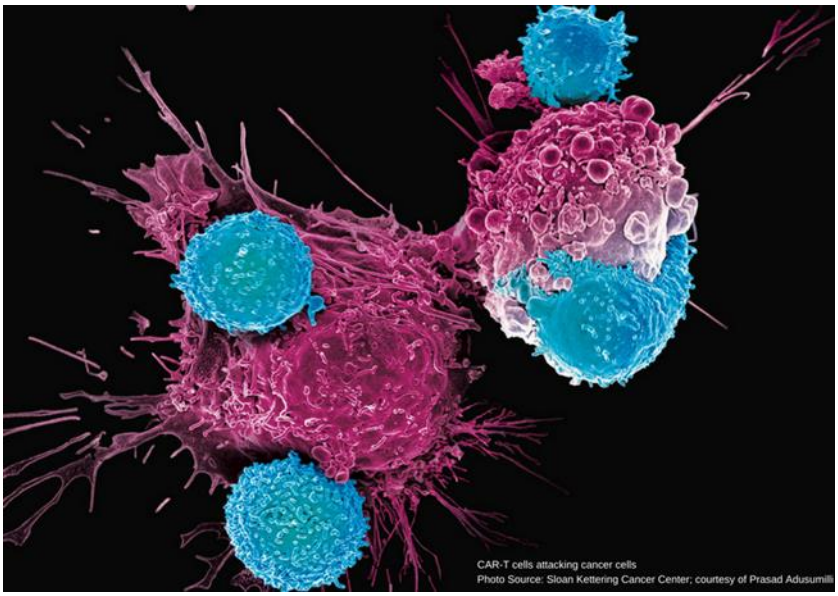


Wetterstrand KA. DNA Sequencing Costs: Data from the NHGRI Genome Sequencing Program (GSP) Available at: www.genome.gov/sequencingcostsdata. Accessed April 2019.

Undertaking statistical analysis of the similarities and differences among the vast number of genomes which have been sequenced to-date has allowed scientists to make great progress in understanding the underlying cause of disease, why certain individuals might be more susceptible to disease, and why a certain individual might respond to treatment differently to another. This evolving understanding of both diseases and individuals on a genetic basis is allowing for the development of better, more personalised treatments for many diseases which are helping to improve health outcomes and drive more efficacious healthcare systems.

One of the ways genetics and genomics are personalising healthcare is through the use of genetic tests, called companion diagnostics, to determine the likelihood that a person with a specific disease, often cancer, will respond to a given treatment. One of the first such companion diagnostics tests was released in the 1990's and is used to determine if a female patient has a specific type of breast cancer which responds well to a drug called Herceptin (discovered by Genentech, Inc. now a subsidiary of the Roche Group). If the woman does not have that specific type of cancer, Herceptin is of no use to her and she should be guided towards other treatment options. The use of companion diagnostics has improved patient outcomes by allowing physicians to prioritise care which is genetically shown to be most advantageous for the patient without wasting time trying things which may or may not work – the physician is fitting the drug to the patient, not the other way around. These tests also save the healthcare system money by reducing the amount of redundant or ineffective treatments being used.

Another exciting avenue for the personalisation of medicine through genetic science is the development of drugs and treatments that actively alter the genetic data in a patient's cells to overcome disease. An example of such a treatment would be CAR-T therapy which is being used to treat certain types of cancer. In this treatment, the patient's T cells – immune cells which seek out and destroy abnormal cells as well as viruses and bacteria – are being removed from the patient's body and genetically altered to boost their ability to find and destroy cancer cells. The modified T cells are then put back into the patient's body with the hope that the increased immune response from these cells will help rid the body of cancer. Two pharmaceutical companies have had CAR-T therapies approved for sale so far and more work is being done to attempt to broaden the array of potential uses.



CAR-T cells attacking cancer cells (Sloan Kettering Cancer Center)

The pharmaceutical industry is very early in the process of harnessing genetics to create personalised drugs and CAR-T is only the beginning. Therapies are currently being developed which can switch certain genes on or off whilst others could potentially allow physicians to edit a person's genetic makeup in order to achieve a specific health outcome or even, one day, to prevent disease from occurring in the first place.

It has only been 16 years since the first complete draft of the human genome was released but, thanks to the large scale sequencing of genomes in the years since, we are finally beginning to make real strides in using genetic information to make large, measurable improvements in healthcare. As more genomes are sequenced and more research undertaken, the pace of discovery and change could accelerate rapidly.

We are living in remarkable times and the opportunity for pharmaceutical companies to capitalise on the promise of genetics and improve the lives of patients has never been greater. This rapid pace of change is creating both opportunities and challenges for investors in the pharmaceutical sector. On one hand, advances in drug design and discovery create the potential for sales growth in the sector and may provide investment opportunities in companies which are able to capitalise on their innovation; on the other hand, large scale technological change can increase competition and destabilise established profit pools at a rapid rate, thus potentially increasing uncertainty in the sector.

In order to mitigate these uncertainties whilst at the same time taking advantage of sector innovation, we at Edinburgh Partners continue to favour companies investing in innovation across a variety of disease categories and technological targets. As exciting as genetics and genomics are, we do not favour companies focusing solely on one area as the risks of competition or destabilisation are great – we are

not looking for new and different for the sake of it. A broader take on drug research and development, focused on the areas of key scientific competency within the organisation, allows a company to examine and work with several new methods or technologies in order to keep their options open and be more agile in the face of emerging competitive threats or market opportunities. A varied, yet technologically advanced pipeline, when added to a portfolio of high quality approved drugs, is what fuels long term sales growth and attractive returns as well as greater stability in the face of changing technologies and treatment regimes.

Another factor that needs to be considered is drug pricing. Drugs with a large amount of competition or those treating increasingly common lifestyle conditions such as diabetes and heart disease are often the most prone to the effect of pricing pressure as insurance companies or governments can play providers of a drug against each other to secure the largest discount. A diversified portfolio of products and pipeline assets offering technological advancement on current standard of care or focussing on diseases without many treatment options can help protect companies from pricing pressure as innovation tends to be rewarded.

It should not be assumed, however, that innovation will protect a company entirely from downwards pricing pressure, especially in the United States where drug prices are the highest in the world and the political agendas of both main parties target lowering prices. The Republicans and Democrats have differing views as to how to accomplish this (and there are even alternate plans within each party) but the bottom line is that, with a presidential election coming in November 2020, the rhetoric around the topic will continue and may translate into legislation aimed at cutting costs. However, it is important to note that most plans on the table would potentially result in greater access to drugs and treatments which would increase volumes for drug companies and may help ease pricing pressure. Whatever the outcome, whilst innovation focussing on unmet medical needs and moving the standard of care forward are important from an investment perspective, investment in the healthcare sector cannot be made without an eye to an ever evolving political situation in the US, the largest healthcare market in the world.

May 2019

About the Author

Lauran Joined EP in November 2013 from Baillie Gifford with 7 years of investment experience.

Lauran Joined Baillie Gifford in September 2007 as a graduate trainee, where she undertook a three year rotational programme spent analysing European and North American Equities as well as Corporate Bonds.

In June 2010, she was made Baillie Gifford's global Healthcare analyst.

Whilst at Baillie Gifford, she managed the Glenfinlas Global Healthcare fund. The fund was an unconstrained, global best ideas in Healthcare fund.

Lauran is responsible for researching the global Pharmaceutical and Automotive sectors and assisting in the management of client portfolios.

Lauran has an M.Sc. in Ecological Economics from University of Edinburgh 2005 and B.S. in Biology from Davidson College (North Carolina, USA) 2003.

.

About Edinburgh Partners

Edinburgh Partners is an independent-minded fund management company which specializes in equity investment. We invest globally with an emphasis on absolute returns over a long-term time horizon. Our goal is to provide clients with superior long-term returns. We believe the creation of value for our clients depends upon the quality and experience of our investment team. Combining a high quality team with the ability to take a long-term view provides the basis for creating superior returns for clients.

Contact Information

Edinburgh Partners Limited
27-31 Melville Street
Edinburgh
EH3 7JF
Telephone: 0131 270 3800
Facsimile: 0131 270 3801
Website: www.edinburghpartners.com

Copyright

Important Notes

All Investments have the potential for profit or loss and as such your capital may be at risk. Past performance is no guide to the future.

This document does not constitute or form part of, and should not be construed as, a recommendation, offer, invitation or inducement to purchase or subscribe for securities or services mentioned herein. The information and opinions contained in this document are subject to change without notice.

This document contains information on investments which does not constitute independent research. Accordingly, it is not subject to the protections afforded to independent research and Edinburgh Partners Limited and its staff may have dealt in the investments concerned.

This document has been issued and approved by Edinburgh Partners Limited. Registered Office 27-31 Melville Street, Edinburgh EH3 7JF. Registered in Scotland SC243661. Authorised and regulated by the Financial Conduct Authority, 12 Endeavour Square, London E20 1JN.