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A NEW ERA FOR HEALTH CARE

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INVESTMENT VIEWS FROM OUR PARTNERS AT NEWTON INVESTMENT MANAGEMENT ("NEWTON")

The health-care industry could be poised for significant growth over the next ten years.

We believe that themes are transformative forces with the power to influence and reshape the global economy, business and society in ways that can alter the investment landscape dramatically. The rapid rise of artificial intelligence (AI) is a prime example. At Newton, our thematic research framework helps us identify and investigate emerging trends, which can provide valuable insights into future growth opportunities.

In our view, the health-care industry is entering a new era, differentiated by trends centered on enhanced access and breakthroughs in genetic therapies. We believe advances in health care—made possible by the significant technological progress over the last decade, including AI—could rival those in other economic sectors with regard to innovation and impact on human lives. With this backdrop, the health-care industry could be poised for significant growth over the next ten years.

CUTTING-EDGE TECHNOLOGY

A wide range of advanced technologies are enabling scientists, doctors and researchers to better target and treat both rare and common diseases while engaging with patients in a more efficient, timely and proactive manner. At Newton, we are following and investing in several small and mid-cap (SMID-cap) growth companies with links to these technologies: those working on disease cures; those developing the tools that make the innovations possible; and best-in-class solutions providers utilizing data to more thoroughly evaluate symptoms and proactively treat patients. In our view, companies that are thematically exposed to genetic technologies and data-driven, connected health care are improving health equity globally, and we believe these companies could positively affect human health in considerable ways.

KEY POINTS

1. In our view, the health-care industry is entering a new era, differentiated by trends centered on enhanced access and breakthroughs in genetic therapies.
2. We believe the convergence of technological innovations should lead to significant enhancements in how practitioners treat patients for both common and rare diseases globally.
3. New innovations in genetics, devices and medicines could lead to better, more affordable health outcomes for patients.

GENOMICS AND GENE THERAPY

We believe genetic medicine could be a major disruptor for the health-care industry, a sector that craves innovation and improvement. In our view, changes in the health-care business model over the next 20 years could bend the health-care cost curve, which would be unusual for an industry typically plagued by rising costs. Over the last two decades, academics, scientists and researchers at pharmaceutical and biotechnology companies have developed tools to read and understand the human genome, or our complete set of DNA, and genetic code. Genetic code is fundamental to human life, holding the instructions responsible for synthesizing proteins, which determine all the ways in which our bodies develop and function.

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MOVING HEALTH CARE UPSTREAM

Many diseases are the product of malfunctioning or 'bad-acting' proteins. Most traditional pharmaceutical drugs on the market treat only the symptoms produced by those malfunctioning proteins, while neglecting the root cause. Genetic medicine is moving the health-care sector upstream, aiming to solve the problem at the source by focussing on the DNA (deoxyribonucleic acid) and RNA (ribonucleic acid) that code for all proteins in the body. Instead of treating the symptoms caused by bad-acting proteins, which are continuously replicated in the body, practitioners can use innovative techniques aimed at modifying genetic code to stop the production of malfunctioning proteins and restore normal protein function.

One analogy brings this evolution to life: Envision a leaky pipe. One possible solution might be to put a pail under the pipe to collect the water, emptying and replacing the pail when it becomes full. This represents the current state of our health-care system. Another option would be to fix the underlying problem, repairing the pipe so that it stops leaking. We believe this is the direction in which our health-care system could be heading. Health-care practitioners may soon be able to fix the pipe—tackling the source of health-care problems, treating patients holistically and achieving long-term results in ways that medicine has not been able to do historically.

BEYOND BIOTECHNOLOGY

The genetic technology theme expands beyond biotechnology companies, encompassing medical tools and diagnostics companies as well. More advanced tools are emerging that allow scientists to better understand how problematic proteins behave. Currently, there are tools and pharmacological drugs available that can repair single-point gene mutations, providing practitioners with treatment options for approximately ten thousand known rare diseases, most with no alternative therapies available. Health-care experts—or 'the plumbers'—now have the potential to deliver functional cures in ways they were previously unable to achieve. Moreover, companies are equipped with the information and technology to design drugs that target the genetic underpinnings of diseases.

We believe this new class of drugs could provide functional cures for many diseases over the next decade, sometimes with as little as a single dose. Researchers are now able to identify and target specific diseases, such as cancer, and deliver the

right drugs, or the appropriate DNA, for better outcomes. This presents an attractive opportunity for investors, with the largest white space, or potential market, we have ever encountered. With a total addressable market upwards of $1 trillion,* the health-care industry is focussing a great deal of energy and attention on genetic technology.

ENHANCED HEALTH-CARE DELIVERY

Significant technological improvements are also enabling health-care practitioners to deliver services digitally. Health-care professionals can provide care in smaller, more nimble facilities, as well as remotely or in home. This evolution allows health-care professionals to provide better, more accessible and more affordable care for wider populations, in a more proactive manner.

ADVANCED MEDICAL DEVICES

Continuous glucose monitors (CGMs) are an early example of where the industry could be headed with regard to connected medical devices. CGMs are devices worn on the body that provide glucose readings to users through their smartphones. They allow doctors and patients to monitor glucose levels in real time. Historically, CGMs have been available only to those with prescriptions, for patients with conditions such as diabetes; however, these biosensor monitoring devices may soon become more mainstream.

Data-driven, connected health-care technologies allow doctors to proactively engage with their patients, potentially preventing further health issues down the road. CGMs—which may soon be available over-the-counter—provide individuals with the ability to track their own metrics, helping them understand how different diet and lifestyle choices may affect their health and how they can adjust their behaviors to improve their well-being. We expect similar devices to become more broadly adopted in the future, with capabilities ranging from blood pressure monitoring to the detection of heart arrhythmias and the identification of sleep apnea, among others.

Technological advancements in AI and machine learning, coupled with health-care innovations, could lead to a significant increase in the amount of data captured within the health-care industry, for individuals and for wider populations. This data could reveal pertinent information, which may lead to a virtuous cycle of continuous improvement for devices used in the tracking and proactive treatment of disorders.

SMID-CAP OPPORTUNITIES

Our multidimensional research team follows and invests in several small and mid-sized growth companies with exposure to data-driven connected healthcare. Companies we are closely watching include a leader in glucose monitoring, as well as several others that track and treat sleep apnea and monitor cardiac rhythms. All of these companies produce devices that can help deliver better outcomes for patients.

We are also investing in companies that are developing gene therapy, gene editing and gene modulation, as well as the supporting companies that help fuel the development of these drugs. These treatments are powered by remarkable advancements in science

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*Source: Newton estimate.

and represent some of the most potent drugs to date. We seek high growth companies trading at attractive valuations with programs that we believe have tangible outcomes, translating to revenues within reasonable time frames.

CONCLUSION

We believe the convergence of technological innovations across AI, big data and machine learning, along with advances in genetic technologies and data-driven connected healthcare, should lead to significant enhancements in how practitioners treat patients for both common and rare diseases globally. In our view, new innovations in genetics, devices and medicines could lead to better, more affordable health outcomes for patients. Advancements may also improve health equity across wider populations and provide superior economic value.

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