

Healthcare

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As investors, we would be hard-pressed to find another period when healthcare has been more topical than 2020. It was only in January 2020 that the genetic profile of this novel coronavirus was first made available, and in the months that followed the sector delivered many firsts, not least Operation Warp Speed which led to the discovery of not one, but several vaccines in just 10 months, compared to an average development cycle of 10 years. We witnessed an unprecedented level of investment, data sharing and collaboration. This step-change in operational mindset will likely have a long-lasting impact on companies involved and sector performance alike. What really excites us is the belief that COVID-19 has provided powerful catalysts to several trends. Many of these have been progressing for some time but are now seeing the much-needed behavioural change that is often hard to achieve but, once attained, rarely goes into reverse.

Distributed and remote care

As we learned the hard way, healthcare is only as good as its accessibility when needed but we now know there is a sizable 'shadow infrastructure' and hidden capacity that can be tapped into. Telemedicine has gone from being a corporate perk to a vital part of accessing care. For example, both Teladoc and Amwell have seen a sharp acceleration in repeat visits, a key metric to gauge behavioural change. While 2021 may see some tough comparisons, both companies are partnering with payers to launch virtual primary care offerings which should drive further patient volume online. Pharmacies are also (finally) moving online. In many countries, prescriptions can now be sent digitally to a pharmacy which then dispatches the medication straight to your home. While much of the focus has been on Amazon's recent entry into the US market, we believe this will likely be one area that proves tricky for the e-commerce giant to disrupt on a global basis. Regulation is helping to accelerate the move of prescriptions online but in time there will be further opportunities for online pharmacy companies, such as Zur Rose, to become valuable platforms on which additional services such as an over the counter (OTC) medication marketplace, biopharma marketing and telehealth offerings can be layered. For companies such as Dexcom, that specialises in glucose monitoring, we believe the past year has further proven the merit of remote disease management; its solution vastly improves both the quantity and quality of data being gathered (from which better clinical and lifestyle choices can be made), while being extremely lightweight, robust and bringing minimal disruption. We are seeing many new flavours of home health and remote care coming to the market often utilising wearables, diagnostics and smart home devices. In our view all these marry nicely with the shift towards value-based care in the US, which should accelerate given the drain on resources that COVID-19 has caused to a healthcare system now projected to be insolvent by 2024.

Next-gen diagnostics

Molecular diagnostics have been around for a long time and have, until now, been limited in use when it comes to critical care. The new generation of diagnostics is powered by accurate, low cost, high throughput genomic sequencing platforms, enabled by artificial intelligence (AI) to bring together clinical, scientific and personal health data to deliver tests of such high accuracy that mass first-line screening is now becoming a reality. COVID-19 has served to normalise the use of point-of-care diagnostics across the entire disease spectrum – from screening and diagnosis to treatment guidance and ongoing monitoring. It has also highlighted the benefits of minimising any interactions that are invasive, time-consuming and labour intensive. Effective screening holds the promise of saving lives and materially reducing the healthcare cost burden. The FDA (US Food and Drug Administration) has become extremely proactive in driving adoption through clear expedited pathways to approval as well as reimbursement. One of the biggest opportunities, in our view, is the liquid biopsy market for cancer screening, valued at c\$70bn in the US alone. Penetration is low today, with usage primarily focused on tumour mutations, but we believe that vastly improved technology coupled with the experience of 2020 have sufficiently tipped the scales in any cost/benefit analysis.

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AI

In commentaries last year, we wrote about the potential of AI to ease back-office burdens, reduce waste and streamline processes in healthcare settings, and these opportunities remain as pertinent today. However, the opportunity in front-end solutions and applications is also growing rapidly. For example, while check-in and patient registration in the UK is often a relatively simple process, in the US and other multiple-payer countries, it is less straightforward. Cross-referencing insurance details, pre-authorisations and referrals create an environment that is ripe for digitalisation. Companies such as Phreesia and R1 RCM are automating these inherently complex tasks while producing useful, structured data on which AI and further analytics can operate and innovate. The fact that a very analogue process is being replaced by a digital user experience that consumers now expect from every service interaction further helps to support adoption.

The pandemic has also accelerated AI triage from pilots into emergency-induced deployment on the front line. The Royal Bolton NHS hospital rolled out a retooled AI platform from Qure.ai, a private Indian company, to assist in COVID-19 triage and diagnosis, while a research study published in the Lancet detailed a COVID-19-specific AI triage tool that performed to an acceptable clinical standard, trained on real CT scans from Chinese hospitals during the pandemic. While these are both specific implementations, their success has likely lowered the hurdle and scepticism among the medical community for these technologies. Combined with ongoing advances in NLP (natural language processing) that can assist general triage routines, commercial solutions such as those offered by AIDoc and Babylon Health (both private) are likely to be the first of many.

AI has made huge strides forward in its applicability to biological chemistry in recent years. 2020 saw the solving of what was dubbed the "50-year-old grand challenge in biology", namely the prediction of how proteins fold in their native states by Google's much-feted DeepMind team. The use of AI is growing in pharmaceutical R&D as a result of these developments. There are two main ways to access this theme. The first is through bio-simulation platforms, software that improves pharmacokinetic and pharmacodynamic understanding which can lead to better decision-making on new drugs. Simulations Plus, Certara and Medidata (owned by Dassault) are among the well-established players. While the technology is no doubt complex (and therefore defensible) and they all deliver reasonable growth, the addressable markets and growth potential of these assets is largely a known quantity, while valuations are high relative to growth due to the scarcity of investment options in this relatively niche industry. The second model constitutes a 'money where your mouth is' approach, whereby some companies sell their software commercially, but also use it alongside an in-house biotechnology division to discover and design drugs with the intention of taking them through clinical development themselves; Schrödinger and Relay Therapeutics are two such companies adopting this approach. With traditional drug design taking 4-6 years and these companies hoping to halve that timeframe, the appeal is obvious and the process potentially hugely rewarding. The unproven nature of this novel approach combined with the high, binary risk associated with drug development means we are less likely to invest in these companies in their current state, but we are excited to see the science develop further with the potential to bring about a significant advancement in drug discovery capabilities.

With each passing year, our excitement for medical technology grows. Adoption can often be slow, but with COVID-19 pushing healthcare systems around the world to the brink, we hope the sector and all its stakeholders will finally wake up to the benefits that constructive technology disruption can bring. Sector allocation within our funds will continue to be driven by the quality and valuation of assets available relative to what we see in our core technology universe. Having said that, last year saw many companies that we follow reach scale, velocity and reimbursement and, together with a buoyant IPO market, they make for a much richer universe today, with no shortage of candidates across the growth and valuation spectrum. We believe the three areas discussed here are still in their early stages and will provide ample scope for us in the near term.

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