10 January 2022

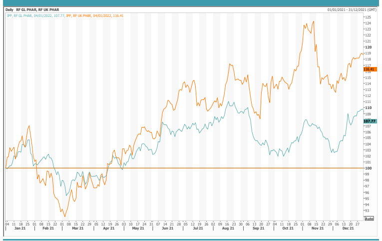
HARDMAN & CO HEALTHCARE INDEX

2021 – COVID-19 continued to benefit sector

The Hardman & Co Healthcare Index (HHI) has been running since 2009. Its main function is to highlight the attractions of life sciences investments over the long term. Following an exceptional performance in 2020, when investors showed greater appreciation of science as a result of the COVID-19 pandemic, 2021 was a year of reflection. The HHI still increased 12.0%, to 661.5, which was substantially better than the performance of the FTSE AIM All-Share Index (+5.2%), but was modestly below outcomes for the FTSE 100 (+14.3%) and FTSE All-Share (+14.5%) indices. After several spectacular share price performances by companies involved in the challenges posed by the pandemic in 2020, uncertainty over the longevity of COVID-19 resulted in some underperformance of those same stocks in 2021. Also, after a busy year in 2020, when 27 companies took the opportunity to raise more capital, only 10 companies in our universe raised new capital in 2021. At the time of writing, COVID-19 is rearing its ugly head again, suggesting that the life sciences industry will remain a focus of attention in 2022.

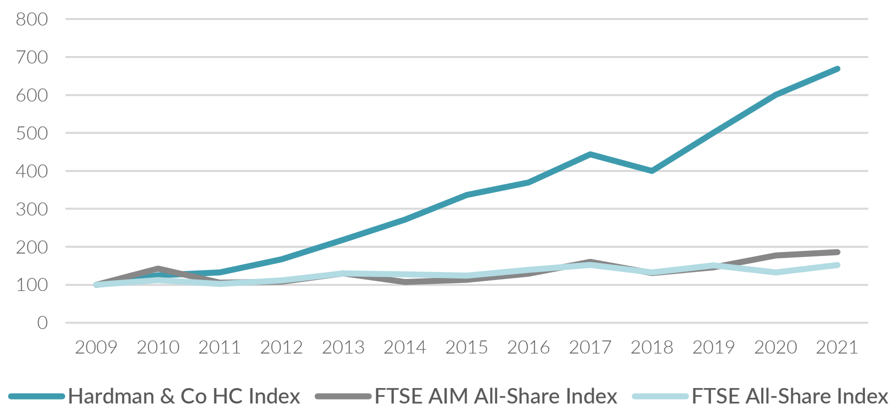
- Since inauguration, the CAGR for the HHI has been 17.2%, compared with 3.5% for the FTSE All-Share Index and 5.3% for the FTSE AIM All-Share Index, highlighting the attractiveness of the healthcare sector as a long-term investment, even though it is capital-intensive.
- Of the 53 companies included in the HHI, 32 recorded an increase in their share prices in 2021, whereas 19 saw a fall, with two companies simply marking time.
- The variance between the best- and worst-performing stocks reverted to normal levels in 2021, at 225% – **Futura Medical (FUM)** rising 158% and **Venture Life Group (VLG)** falling 68%; the median share price change was 10%.
- In relative terms, 24 stocks outperformed the index during 2021, with the other 29 underperforming.
- The response of some companies to the COVID-19 pandemic has been exceptional, and, in many cases, rewarding. Many companies really stepped up to the challenges posed by the virus, and, in just two years, there is global availability of vaccines, diagnostic tests and treatments.

Global pharma vs. UK pharma



Source: Refinitiv

Performance of Hardman Healthcare Index – rebased



Source: London stock Exchange, Hardman & Co Life Sciences Research

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Share price performance of stocks in Hardman Healthcare Index

Listing	Company	Ticker	Share price (p) 31 Dec 2020	Share price (p) 31 Dec 2021	Market cap (£m) 31 Dec 2021	Price change (%)
AIM	Abcam	ABC	1,550.0	1,733.0	3,966.6	12%
AIM	Advanced Medical Soln	AMS	243.0	338.0	730.3	39%
AIM	Advanced Oncotherapy*	AVO	36.0	38.0	171.6	6%
AIM	Allergy Therapeutics	AGY	16.6	32.3	207.0	94%
AIM	Alliance Pharma	APH	87.5	108.8	585.4	24%
Main	Arix Bioscience	ARIX	219.0	122.0	157.6	-44%
Main	Assura	AGR	76.8	69.8	2,055.7	-9%
AIM	Avacta	AVCT	114.0	126.4	321.0	11%
AIM	Caretech	CTH	522.0	576.0	652.8	10%
AIM	Circassia	CIR	28.2	40.6	169.8	44%
Main	Convatec	CTEC	199.0	193.2	3,892.2	-3%
AIM	Deltex Medical Group	DEMG	1.4	1.4	8.4	2%
AIM	Destiny Pharma	DEST	68.5	105.0	62.9	53%
AIM	Diurnal*	DNL	57.0	57.0	96.4	0%
AIM	Eco Animal	EAH	247.5	160.0	108.4	-35%
AIM	EKF Diagnostics	EKF	71.5	75.0	341.2	5%
AIM	Emis	EMIS	1,082.0	1,360.0	861.0	26%
AIM	e-Therapeutics	ETX	17.5	44.3	227.9	153%
AIM	Futura Medical	FUM	15.3	39.3	112.9	158%
AIM	Genedrive	GDR	48.5	43.0	39.5	-11%
Main	Genus	GNS	4,196.0	4,938.0	3,247.6	18%
AIM	Immunodiagnostics	IDH	210.0	382.0	110.3	82%
AIM	Immupharma	IMM	13.4	6.6	18.8	-51%
Main	Indivior	INDV	108.8	257.0	1,804.6	136%
Main	IP Group	IPO	99.0	123.8	1,316.0	25%
AIM	Ixico	IXI	102.5	60.0	28.9	-41%
AIM	Lidco Group	LID	11.8	12.0	29.4	2%
Main	MD Medical Group	MDMG	6.1	10.6	588.5	74%
AIM	Midatech Pharma	MTPH	26.6	18.3	18.0	-31%
AIM	Novacyt	NCYT	861.0	370.0	261.3	-57%
AIM	Omega Diagnostics	ODX	64.5	27.3	49.8	-58%
AIM	Open Orphan	ORPH	25.8	23.0	154.3	-11%
Main	Oxford BioMedica	OXB	1,030.0	1,230.0	1,059.3	19%
AIM	Oxford Metrics	OMG	94.5	114.5	145.5	21%
Main	Primary Health Properties	PHP	152.8	151.4	2,018.0	-1%
AIM	Proteome Sciences	PRM	3.9	5.1	15.4	33%
AIM	Redx Pharma	REDX	62.5	86.0	236.7	38%
AIM	ReNeuron	RENE	82.5	82.0	46.8	-1%
AIM	Sareum	SAR	2.4	4.9	166.8	102%
AIM	Scancell	SCLP	14.0	20.0	160.8	43%
AIM	Shield Therapeutics*	STX	63.5	44.5	99.7	-30%
AIM	Silence Therapeutics	SLN	22.0	24.0	492.5	9%
Main	Smith & Nephew	SN.	1,510.0	1,294.0	11,383.8	-14%
Main	Spire	SPI	155.4	250.0	1,002.8	61%
AIM	Surgical Innovations	SUN	1.7	2.4	21.9	42%
AIM	Synairgen	SNG	153.0	208.0	418.8	36%
Main	Syncona	SYNC	261.0	212.0	1,413.5	-19%
AIM	Tissue Regenix*	TRX	0.5	0.5	38.0	0%
AIM	Tristel	TSTL	527.0	455.0	214.7	-14%
AIM	Valirx	VAL	19.5	36.2	23.5	86%
Main	Vectura	VEC	122.5	165.0	1,013.0	35%
AIM	Venture Life Group	VLG	93.0	30.0	37.7	-68%
AIM	Yourgene Health	YGEN	14.8	12.7	91.6	-14%

**Client of Hardman & Co*

Source: Company data, Hardman & Co Life Sciences Research

Hardman & Co Healthcare Index

Review of 2021

HHI comprises 53 stocks…

The main function of the HHI is to monitor the performance, and to highlight the attractiveness, of life sciences investments over the long term, and to try to identify those stocks that have disruptive technologies that consistently allow them to outperform both the index and the markets. Many of the 53 constituents of the index are high-risk, still being in the development stage, with micro-capitalisations and a long way from sales and profitability. Despite this, some companies can still make extremely attractive returns for investors, as evidenced by the top-performing stocks in 2021, Futura Medical (FUM) and e-Therapeutics (ETX), which both saw their share rise by over 150%.

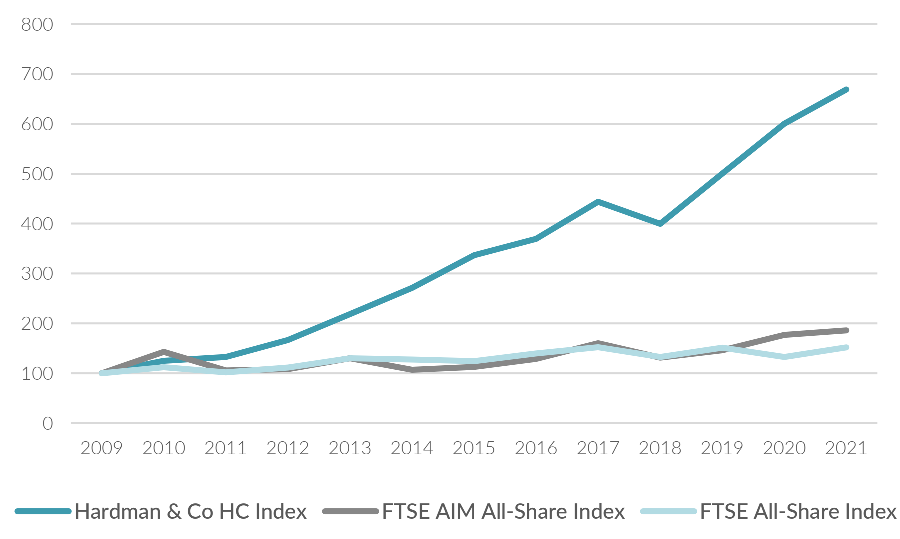
…with disruptive technologies that allow them to outperform index and markets

Despite HHI rising significantly, still underperformed main and broad UK market indices during 2021

COVID-19 has altered, probably permanently, the way in which companies operate and individuals work. However, until recently, there was a sense that things were getting back to a "new normal" in 2021. For example, the FTSE 100 Index and FTSE All-Share Index increased 14.3% and 14.5%, respectively, in 2021[1], approaching pre-pandemic levels. Recovery in the general UK markets was better than the performance of the HHI, which increased 12.0%; however, this was vastly better than the performance of the FTSE AIM All-Share Index[1], which increased only 5.2%.

Since inception, companies that comprise the HHI have shown a CAGR of 17.2%, compared with 3.5% for the FTSE All-Share Index and 5.3% for the FTSE AIM All-Share Index, highlighting the attractiveness of the sector as a long-term investment.

Performance of Hardman Healthcare Index – rebased



Source: London stock Exchange, Hardman & Co Life Sciences Research

Comparison of Hardman Healthcare Index with London markets

@ 31 Dec	2009 Index	2010 Δ	2011 Δ	2012 Δ	2013 Δ	2014 Δ	2015 Δ	2016 Δ	2017 Δ	2018 Δ	2019 Δ	2020 Δ	2021 Δ	CAGR %
Hardman & Co Healthcare Index	98.4	24.7%	6.2%	25.9%	31.2%	24.1%	23.9%	9.7%	20.3%	-10.0%	25.3%	19.9%	12.0%	17.2%
FTSE AIM All-Share Index	654.2	42.7%	-25.8%	2.0%	20.3%	-17.5%	5.2%	14.3%	24.3%	-18.2%	11.6%	20.7%	5.2%	5.3%
FTSE All-Share Index	2772.0	12.1%	-9.0%	9.5%	16.7%	-2.1%	-2.5%	12.5%	9.0%	-13.0%	14.2%	-12.5%	14.5%	3.5%

Source: London Stock Exchange, Hardman & Co Life Sciences Research

[1] https://www.londonstockexchange.com/indices?tab=ftse-indices

Recovery in AZN and GSK…

…but financial performance of SN. still affected by pandemic

Comparison with the majors

In order to put the share price movement of our – generally – small market capitalisation index constituent companies into perspective, the following table shows the performance of the three major UK healthcare companies over the same period. Along with the recovery seen in the main UK market, both AstraZeneca (AZN) and GlaxoSmithKline (GSK) performed well in 2021, with AZN benefiting from positive news flow regarding new drugs and GSK improving in response to strategic corporate changes (demerging of its consumer business). The share price performance of Smith & Nephew (SN.) has been poor, largely as a lingering consequence of COVID-19 affecting the number of elective surgeries, which, in turn, has affected the financial performance of medical device suppliers.

Performance of healthcare majors

Company	Ticker	Share price (p) 31 Dec 2020	Share price (p) 31 Dec 2021	Change (%)	CAGR 2011-21 (%)
AstraZeneca	AZN	7,324	8,678	19%	11.0%
GlaxoSmithKline	GSK	1,342	1,606	20%	1.3%
Smith & Nephew	SN.	1,510	1,294	-14%	7.5%

Source: Hardman & Co Life Sciences Research

Changes to HHI composition

Following publication of the corresponding review last year, a number of readers enquired why certain other stocks were not included in the HHI. Making such changes is not so easy, as, unless the index is rebased, the total market capitalisation of all the constituents has to be maintained. However, one change that was considered beneficial was the introduction of Novacyt (NCYT) for 2021. In order to accommodate this, the contribution from SN. has been reduced from 18.5% to 14%.

Three companies taken over during 2021

…and need to be replaced for 2022

Also, for 2022, further changes will need to be made as a consequence of M&A activity. Vectura (VEC) was acquired by Philip Morris (PHM) for just over £1bn, Immunodiagnostics (IDH) was bought by Perkin Elmer (PKI) for £110m and Lidco (LID) was put out of its misery by Masimo Corp for £30m.

Moreover, going against the recent trend for UK biotechs to list directly on NASDAQ – for example Autolus (AUTL), Immunocore (IMCR) and Orchard Therapeutics (ORTX) – Oxford Nanopore (ONT) decided to list in London, and should be included in our index, especially given its market capitalisation of £5.8bn. We are looking for ways to accommodate this change for 2022.

ONT has failed to meet expectations in last two years…

…leaving valuation vulnerable

It will be interesting to see how ONT performs. Hardman & Co was commissioned by one of its clients to provide a summary analysis of the company and its technology towards the end of 2019. This necessitated generating provisional forecasts on the company for 2019 and 2020, based on publicly available information. The pandemic arrived too late to affect operations in 2019; however, while potentially negative for operational activity in 2020, ONT's technology was well-placed to benefit from a significant opportunity in COVID-19 testing. Despite this, ONT failed to meet sales expectations in both years, and the mix of business was markedly different, with only 58% of sales derived from its core life science research tools (LSRT) business, and the other 42% derived from the unpredicted COVID-19 testing. This outcome meant that ONT also failed to hit EBIT and cash forecasts.

Given the high valuation ascribed currently by the market to this business, it will be interesting to see whether analysts' forecasts are met in 2021 and whether the actual outcome causes a change in 2022 forecasts. The valuation leaves little scope for any under-achievement.

Movers and shakers

Of the 53 companies included in the HHI, 32 saw an increase in their share prices during 2021, whereas 19 saw a fall, with two companies simply marking time.

24 companies outperformed and 29 underperformed

Compared with the movement in the index, 24 companies outperformed and 29 underperformed. Ten companies (19%) in our index used positive market sentiment towards their stock to raise additional working capital, among them raising just over £150m. In addition, Primary Health Properties (PHP) made an acquisition using a mixture of shares and cash. These capital increases do influence the performance of the index but, even excluding them, the index rose by 11.4% in 2021.

Given our large portfolio of constituent companies, we usually focus on both the top five (outperformers) and the bottom five (underperformers), and we try to offer a short explanation as to why the shares performed in the way that they did in 2021.

Best and worst performers in 2021

Top five			Bottom five		
Rank	Company	Δ	Rank	Company	Δ
1	Futura Medical	158%	49	Arix Bioscience	-44%
2	e-Therapeutics	153%	50	Immupharma	-51%
3	Indivior	136%	51	Novacyt	-57%
4	Sareum	102%	52	Omega Diagnostics	-58%
5	Allergy Therapeutics	94%	53	Venture Life	-68%

Source: Hardman & Co Life Sciences Research

The "top five"

Futura Medical (FUM)

Regular flow of positive news on MED3000

There has been a high level of volatility in FUM's share price over the last five years. However, 2021 was characterised by a regular stream of positive news for MED3000, its topical gel formulation of glyceryl trinitrate for the treatment of erectile dysfunction (ED). Consequently, FUM was top of the leader board in 2021, with a share price rise of 158%, to 39.3p, having peaked at 68p during March.

Company took opportunity to raise £12.0m at 40p

MED3000 has the potential to be the first OTC product available globally for ED without a prescription. During 2021, MED3000 was approved for use as a Class IIb medical device in the EU, was the subject of some collaboration and commercial deals – notably China and Latin America – and had its regulatory pathway in the US signed off with the FDA. At the time of writing, FUM is undertaking a pivotal clinical trial in the US, having recruited over 100 patients (target 110-120) with mild, moderate or severe ED, who will be followed for six months. The company is planning to file its US regulatory submission for MED3000 by the end of 3Q22, which would suggest potential approval in early 2023. Meanwhile, FUM is scaling up manufacturing capacity. Following EU marketing approval of MED3000, FUM took the opportunity to raise £12.0m new capital at 40p per share.

e-Therapeutics (ETX)

Another good year for ETX…

…but this does follow several years of underperformance

After appearing several times over recent years in our "worst-performing" list, ETX has now had two years of recovery, following up its staggering 465% increase in 2020 with a 153% rise in 2021, to 44.3p. This appears to be closely associated with a change in management, along with an opportunistic decision to use its technology platform and strategies that had proven successful in identifying compounds effective against the influenza virus to identify combinations of compounds with activity against Sars-CoV-2. Apart from the receipt of milestones from its Galapagos collaboration, there has not been any other significant news from the company. Despite this, the shares saw a steady rise throughout 2021.

Indivior (INDV)

INDV benefited from closure of legal disputes…

…but must now use its cash wisely

Shares in INDV continue to recover from the legal settlement agreed with the US Department of Justice and the Federal Trade Commission regarding the historical potential abuse of Suboxone as part of opioid-dependence treatment programmes. In addition, in January 2021, INDV reached an indemnity settlement with its former parent company, Reckitt Benkiser (RB.). Removal of potential litigation also removes all the uncertainty, which tends to be positive for share price performance. Also, being a quarterly reporter, INDV regularly raised expectations during the course of 2021. Consequently, the shares saw a steady rise throughout 2021, ending the year up 136%, at 257p. The key to future success is to use the strong cash generation from its three existing marketed products to boost its very weak pipeline. The extensive share buyback programme suggests that it does not have much use for surplus cash.

Sareum (SAR)

Positive news flow has driven performance of SAR

Like ETX, SAR has also appeared in the "top five" for the second successive year. SAR continued to deliver a regular flow of positive news during 2021, which saw its share price rise 102%, to 4.9p, having peaked at 9.2p in August. The main focus of the company is to advance the development of its two TYK2/JAK1 programmes: SDC-1801 for autoimmune diseases and SDC-1802 for cancer. Both products are still in pre-clinical development, although application for a clinical trial exemption certificate (CTA) had been expected in 1H21. To date, evidence that this was submitted on schedule could not be found. One possible reason for this is the lack of financial resource, although SAR did undertake a number of small capital increases during 2021, raising a total of £5.0m.

Allergy Therapeutics (AGY)

Trial results further de-risked pipeline…

…and increase probability of regulatory approvals

AGY reported a steady flow of news from its development pipeline during 2021, which was the basis for the 94% increase in its share price, to 32.3p. Although news surrounding the development of its peanut allergy vaccine gets much attention, it remains at a relatively early stage compared with its core grass vaccine product. In October, the company released headline data from its exploratory field trial (G309) with Grass MATA MPL in 119 patients across Germany and the US. These results were part of a sequential development programme, and increased the probability of successfully completing its pivotal trial (G306), which is required for regulatory approval in the US and Europe, and is scheduled to start in 2022, with headline results in 2023. Meanwhile, AGY continues to make solid sales in European markets that have been severely affected by the ability of patients to meet with specialist clinicians during the pandemic, leaving the company trading on an EV/sales multiple of just 2.5x.

The "bottom five"

Venture Life Group (VLG)

COVID-19 boosted 2020 sales…

…but left distribution networks overstocked…

…and senior personnel departing

The worst-performing stock in the HHI in 2021 was VLG, which saw its shares drop 68%, to 30p. During 2020, the pandemic appeared to induce some panic-buying among its distribution partners, notably in China, which led to a 49% rise in sales. However, this left some of the wholesale pipelines significantly overstocked, which resulted in minimal repeat sales from those partners in 2021. The market reacted unfavourably when informed of this, with underlying 1H21 sales falling 8%. A further announcement in December that the issues of the first half were being repeated in the second half simply compounded the poor performance. In addition, the Chairman and recently appointed (2019) CFO have both announced their departures. The company maintains that 2021 sales will be higher than those in 2020 (£30.1m), but readers should be aware that an estimated £7m of this is coming from acquisitions.

Omega Diagnostics (ODX)

Director share sales and dispute with UK government have undermined shares

ODX was a major beneficiary from the pandemic, with the company developing a lateral flow COVID-19 test. The shares peaked at 100p in early February 2021, following the launch of ODX's Mologic ELISA antibody test for COVID-19 through the company's in-house laboratory testing service. This was followed by the exercise of options and the sale of shares by a number of directors/PDMRs, which started to undermine confidence, causing a downward spiral over the remainder of the year, with the shares ending the year down 58%, at 27.3p. This culminated in a spat with the Department of Health and Social Care (DHSC) over the provision of manufacturing capacity for COVID-19 lateral flow antigen tests. The DHSC did not move ahead with phase two of the contract, and it is seeking the repayment of £2.5m (+VAT) from ODX. While the board does not believe that any repayment is required, and is seeking legal advice, such events have further undermined confidence. The only winners out of such situations tend to be the lawyers! In the first half of the current financial year (to end-March 2022), COVID-19 testing represented 23% of group sales.

Novacyt (NCYT)

Dispute with UK government overshadows good underlying operating performance

Being one of the first companies to respond to the COVID-19 opportunity, NYCT was the best-performing healthcare stock in Europe in 2020, with the shares rising 60-fold. The company's tests for COVID-19 were in strong demand throughout 2020, particularly from the UK government, through the DHSC. However, having announced a second supply contract in September 2020, and even though NYCT continued to supply the DHSC with product to satisfy demand, this contract became a matter of dispute in April 2021, with the UK government refusing to pay for product supplied in 4Q20 and 1Q21 as part of the contract. The total sum involved in the unpaid invoices is £73.0m, for which NYCT has made an accounting provision. Investors had started to raise some questions about "life after COVID-19" and on what NYCT would be spending its ever increasing cash pile. However, this dispute had a major impact on the share price, leaving NYCT down 57% over the year.

Meanwhile, NYCT's expanded product offering continues to be in strong demand, especially through the recent Omicron outbreak, generating significant operating profit and positive cashflow.

Immupharma (IMM)

Really disappointing investment over many years

Much of 2021 was spent, together with its development and commercial partner, Avion Pharma, getting the lead compound, Lupizor, ready for a Phase III trial that would satisfy the regulatory requirements of the US FDA. The regulator requested a pharmacokinetic (PK) characterisation study in 24 healthy male subjects prior to the commencement of the Phase III trial. This news emphasised that there would be a significant delay in the development timetable, and the stock started to come under pressure. Shortly after, the long-time CSO announced his retirement. Subsequently, the board and management team has been restructured. The shares ended the year down 51%, at 6.6p.

To provide additional resources, IMM undertook a £3.5m fundraise towards the end of December 2021, about two-thirds (£2.2m) of which involved a complex arrangement with long-term shareholder, Lanstead Partners. Although Lanstead has agreed to invest £2.2m in IMM, it retains the cash, releasing it on a month-by-month basis (c.£92k) against a benchmark share price of 11p. In the event that the average share price is higher, IMM receives proportionately more cash that month; but the opposite is also true. While such an arrangement has worked successfully on two previous occasions, there is no guarantee that it will work again. Indeed, at the time of writing, with the share price at 6.6p, IMM will only receive c.£50k in January. Clearly, the expectation is that the PK result, due in 1Q22, will be positive, and that the share price will start to recover, but there is no guarantee that this will be the case.

Arix Bioscience (ARIX)

Internal conflicts…

…coupled with downward correction in biotech…

…caused the underperformance

The trade purchase by Merck & Co (MRK) of investee company, VelosBio, generated exceptional returns for ARIX in 2020, and left the venture capital investment company with a strong balance sheet (£174m net cash). Consequently, the market was eagerly awaiting news of how and where those resources would be deployed. However, the company was facing some internal issues, with a significant activist investor pulling the strings. This resulted in a complete change in the board, management team and investor team, with former investment manager, Mark Chan, returning as the Chief Investment Officer. The only survivor has been Robert Lyne, who has been promoted to CEO. For a number of months, all these distractions had a detrimental effect on the operating performance, and few new investments were made. In addition, there was a general underperformance in biotech stocks in 2021, with the benchmark NASDAQ Biotechnology Index dropping 0.6% over the year, despite benefiting from an estimated 12ppt contribution from COVID-19 vaccine provider, Moderna (MRNA). This has been reflected in the performance of ARIX's listed investments, which are mostly quoted on NASDAQ. Consequently, ARIX shares underperformed in 2021, falling 44%, to 122p. In recent weeks, there have been a few announcements of new investments – so the company appears to be getting itself back on the front foot.

Impact of COVID-19

Background

Much has changed over past 12 months

At this same time a year ago, the discussion was all about the way in which COVID-19 had presented a challenging experience to the world and how it had affected all our lives. At the beginning of 2020, the COVID-19 pandemic was in its infancy. However, an exponential rise in both infections and mortality caused global lockdowns, but this was the point at which science fought back, and, by the end of 2020, the life sciences industry had responded with the rapid development and launch of diagnostic tests and vaccines, although development of effective treatments would take much longer. As we entered 2021, initial concerns about the mutant Delta variant were beginning to emerge.

As we enter 2022, much of the developed world has received COVID-19 vaccinations, testing for the virus has become almost routine, and the Delta variant has been superseded by the Omicron variant, which appears to be more infective but less clinically virulent.

Industry response

Life sciences continues to respond to the challenge

As was highlighted last year, many companies stepped up to the challenges posed by the virus through rapid innovation to address the following areas:

- **Diagnosis:** The development of new diagnostic tests to identify either active virus (PCR tests) or previous exposure (antibody/affimer tests). Once the accurate tests were available, the challenge was to speed up the time to get results and to have point-of-care tests.
- **Vaccines:** The rapid development and regulatory approval of COVID-19 vaccines to protect the population and prevent the spread of the virus, and the logistical issues with respect to manufacturing, distribution and vaccination.
- **Treatments:** In general, the development of specific drugs to treat, and the different approaches to treating, patients infected with COVID-19 remains at an earlier stage, but a number of options are now available to severely infected patients, albeit that some are based only on "Emergency Use Authorisation".
- **Infection control:** Manufacture and distribution of disinfectants, soaps and cleaners that can be used for infection control, decontamination and hygiene, on both a personal and industrial scale.
- **Medical equipment:** Adaptation of existing technologies for medical equipment that can be used to treat patients with COIVID-19, such as ventilators, where global demand for intensive care units has soared. Also, adaptation of laboratory infrastructure and equipment to provide a rapid testing service.

Treatments for COVID-19

TREATMENT OPTIONS FOR PATIENTS IN THE HOSPITAL WITH COVID-19

TREATMENT	DESCRIPTION
Remdesivir	Blocks the virus from making more of itself in your body
Convalescent plasma	Gives you antibodies to fight the virus and reduces some inflammation
Baricitinib	Reduces inflammation (immune response)
Corticosteroids	Reduces inflammation (immune response)

Source: https://combatcovid.hhs.gov/

Stock market reaction

This rapid response was reflected in the share prices of many companies involved in the different approaches, which was highlighted in our 2020 review[2]. However, many of the successful companies of 2020 were far less successful in 2021.

COVID-19 vaccine providers

Vaccine manufacturers were clear winners in 2021

The clear winners in 2021 were the companies involved in the manufacture and distribution of vaccines, notably Pfizer (and partner BioNTech) and Moderna. So much has changed in the past 12 months. This time last year, the world was only just starting to vaccinate the first, generally elderly and vulnerable, people.

[2] Hardman & Co Monthly – January 2021 https://www.hardmanandco.com/research/corporate-research/january-monthly-2021/

The recommendation was for two injections about two to three months apart, but, by the end of 2021, it was deemed necessary to have a third, booster, jab to help combat the risks imposed by the Omicron variant, and in Israel, some of the population is receiving a fourth injection. My feeling is that an annual jab, similar to receiving a winter flu jab, will become the norm.

Pfizer expected to sell $36bn and Moderna $16bn in 2021 for 3.3 billion doses

To put the global vaccination programme into perspective, Pfizer is expected to have delivered 2.3 billion doses of vaccine in 2021, generating sales of $36bn. Moderna is running at approximately half these figures, but this is still transformational for the company.

Tweet on 2 Feb 2021

Hardman & Co @HardmanandCo
$PFE WOW!! @pfizer guiding to BNT162b2 vaccine sales of $15bn and pre-tax contribution of $4.2bn (EPS +$0.6) and the market doesn't like it. $PFE share price same today as it was 12 months ago.

Source: Twitter

Stock markets can be very fickle. When Pfizer provided sales guidance for the first time, in February 2021, for sales of its COVID-19 vaccine to be $15bn, the market marked down the stock by 3%, to $34.9. Hardman & Co issued a tweet that day (see adjacent margin comment), exclaiming how stupid markets can be sometimes! Anyone investing at that time has had the last laugh, with PFE shares rising 69%.

Share price performance of companies involved in industry response to COVID-19

Company	Ticker	COVID-19 activity	2021E % sales	Profitable	Cash-generative	Share price* 31 Dec 2020	Share price* 31 Dec 2021	Δ
Abbott Labs	ABT	Diagnostic tests	**48%	✓✓✓	✓✓✓	109.5	140.7	28%
Abingdon Health	ABDX	Diagnostic tests	100%	××	××	102.0	33.0	-68%
Avacta	AVCT	Diagnostic tests	15%	×	×	114.0	126.4	11%
EKF Diagnostics	EKF	Diagnostic tests	45%	✓✓	✓✓	71.5	75.0	5%
Genedrive	GDR	Diagnostic tests	0%	××	××	48.5	43.0	-11%
Omega Diagnostics	ODX	Diagnostic tests	30%	✓	×	64.5	27.3	-58%
Oxford Nanopore	ONT	Diagnostic tests	40%	××	××	-	698.0	-
Novacyt	NCYT	Diagnostic tests	100%	✓✓	✓✓	861.0	370.0	-57%
Roche	ROG	Diagnostic tests	**23%	✓✓✓	✓✓✓	309.0	379.1	23%
SourceBio Intl.	SBI	Diagnostic tests	100%	✓✓	✓✓	173.5	170.0	-2%
MyHealthChecked	MHC	Test service	100%	✓	✓	2.0	2.4	18%
Sonic Healthcare	SHL	Test service	27%	✓✓	✓✓	32.2	46.6	45%
SYNLAB	SYAB	Test service	18%	✓✓	✓✓	-	23.6	-
Yourgene	YGEN	Test service	52%	✓	✓	14.8	12.7	-14%
Eli Lilly & Co	LLY	Treatment	6%	✓✓✓	✓✓✓	168.8	276.2	64%
Gilead	GILD	Treatment	18%	✓✓✓	✓✓✓	58.3	72.6	25%
Regeneron	REGN	Treatment	27%	✓✓✓	✓✓✓	483.1	631.5	31%
Synairgen	SNG	Treatment	0%	××	××	153.0	208.0	36%
AstraZeneca	AZN	Vaccine	9%	✓✓✓	✓✓	7,324.0	8,678.0	18%
BioNTech	BNTX	Vaccine	100%	✓	✓	81.5	257.8	216%
Johnson & Johnson	JNJ	Vaccine	2%	✓✓✓	✓✓✓	157.4	171.1	9%
Moderna	MRNA	Vaccine	100%	✓✓✓	✓✓✓	104.5	254.0	143%
Pfizer	PFE	Vaccine	45%	✓✓✓	✓✓✓	36.8	59.1	60%
Valneva	VLA	Vaccine	0%	××	××	7.8	24.5	216%

Note: This table should not be considered comprehensive
**All share prices are in local currency of main listing*
***Percentage of sales relates to diagnostics division only*
Source: Company data, Hardman & Co Life Sciences Research

COVID-19 test providers

Having been among the best performers in 2020, the share price performances of the test providers were more variable in 2021. The large global players, like Roche and Abbott, saw strong sales growth from COVID-19 tests (note that sales figures in the table above are shown as the contribution to their respective diagnostics division only, and would be significantly smaller on a group basis), which was reflected in their respective share prices.

On the other hand, the share price performances of some of the smaller players in this space were disappointing, notably Novacyt and Omega Diagnostics. The reasons for this appear to be two-fold.

- First, development and introduction of COVID-19 tests in 2020/early 2021 transformed the operating performance of these groups, turning them into profitable, cash-generative organisations. But, on an unproven assumption that the COVID-19 boost would be short-lived, investors started to worry about "life after COVID-19", and how the cash piles would be spent.
- Secondly, I have no political allegiance, but government action against these two companies seems appalling. When the UK government, via its various health departments, desperately needed such companies to step up to the plate and develop COVID-19 diagnostic tests in short order, it supported such companies with orders and contracts. Consequently, its refusal to pay invoices for services supplied and used (as with Novacyt) or the demand for repayment (as with Omega) is unacceptable, in my opinion, especially since this same government wasted billions of pounds on much PPE from unproven sources, which was sub-standard or inappropriate for its intended use, and an incredibly poor and expensive "Track and Trace" system.

The sums of money involved with Novacyt and Omega are relatively modest, but they are important to the two individual companies.

International organisations suggest COVID-19 testing will be needed for foreseeable future

Although restrictions were lifted for much of 2021, following the extensive vaccination programme, there is still an enormous need for COVID-19 testing to continue well into the future, in my opinion. However, it is impossible to say for how long. There have been a number of in-depth articles published, notably from the WHO[3], IMF[4] and the Academy of Medical Sciences[5], all of which conclude that COVID-19 will continue well into the future, at least for another two years, and that further testing and booster vaccinations are likely to be needed.

Four areas driving demand for COVID-19 tests

Taking a slightly different approach to these scientific-led views, my own research has identified the following reasons why I would concur with these findings – that COVID-19 testing in the UK will continue for at least a further two years:

- **Occupational health:** Regular testing of employees, for example, healthcare professionals (HCP), factory workers, actors and film crews, to prevent a complete shutdown of a workplace.
- **Travel requirements:** Testing of both outbound and inbound travellers to comply with the ever-changing rules of different countries.
- **Procedures:** All patients must be tested ahead of any invasive procedure to prevent any spread of the virus to HCP, or cause a shutdown of hospitals/clinics.
- **Recreational gatherings:** Continuous proof of a recent negative test, together with vaccination status, is likely to be required for large social and sporting gatherings.
- **Leisure industry/activity:** Proof of COVID-19 status likely to be required for safety in the leisure industry.

[3] World Health Organisation report, summarised by Newsweek: WHO doesn't see pandemic ending until at least the middle of 2022. https://www.newsweek.com/who-doesnt-see-pandemic-ending-until-least-middle-2022-1612643

[4] International Monetary Fund report: https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2021/05/19/A-Proposal-to-End-the-COVID-19-Pandemic-460263

[5] Academy of Medical Sciences report: https://acmedsci.ac.uk/policy/policy-projects/covid-19-looking-ahead-to-winter-2021-22-and-beyond

COVID-19 testing service

Demand for COVID-19 tests from a number of sources to satisfy the regulations in place at the time caused a number of companies, both listed and private, to adapt their strategies and take advantage of the opportunity. It was pointless having laboratory staff on furlough and expensive equipment sitting idle because the pandemic had altered demand for existing services.

MHC, SBI and YGEN all became profitable and cash-generative by offering a COVID-19 testing service

This spawned a number of testing service companies, too numerous to mention in this short review. However, MyHealthChecked, SourceBio and Yourgene, together with currently unlisted London Medical Laboratory and Prenetics, have all moved from loss-making, cash-burn organisations to profitable, cash-generative groups by adapting strategies and deploying staff to work on COVD-19 testing.

COVID-19 treatments

As mentioned earlier, development of a treatment for the virus takes longer, with a more complex regulatory process. However, progress was made in 2021, and some companies will have recorded substantial drug sales. The consequence of this is that the share price performances of the highlighted companies – mostly those with commercial products – were very positive in 2021.

Apart from those shown in the table above, there are a number of other companies – notably GlaxoSmithKline and Merck & Co – developing COVID-19 treatments, using technology generally focused on either neutralising antibodies or anti-viral activity.

Focus on Synairgen

Read-out of SPRINTER trial due early in 2022…

…but this is a binary outcome

Synairgen (SNG) is continuing clinical trials with SNG001 (inhaled β-interferon) as an alternative approach for the treatment of COVID-19. Its Phase III SPRINTER trial completed the recruitment of 610 hospitalised COVID-19 patients in November 2021, and is due to have a read-out early in 2022. A positive outcome would be used to support a filing with the FDA for EUA. Clearly, management is confident, as evidenced by the recently announced strategic partnership with Ashfield Engage for the development of commercial infrastructure for SNG001, initially in the US.

Management needs results to be positive to support an imminent large fundraise

Moreover, management needs the results to be positive. At the end of June 2021, the company had a gross cash balance of £46.2m, having burnt a short £39m in 1H21. Further cash burn in 2H21 would suggest a cash balance of about £16m at 31 December 2021, or about a three-month working capital runway. A substantial cash raise is imminent in order to obtain going concern sign-off from its auditors.

However, a positive outcome is far from certain, especially given the questionable "benefits" of inhaled β-interferon in the small Phase II trial. SNG is also involved in the NIH-sponsored ACTIV-2 Phase III trial in non-hospitalised patients in the US. The current market capitalisation and the need for more working capital are demanding a positive outcome from the SPRINTER trial.

Conclusion

At the time of writing, much still needs to be done in the war against COVID-19. In my opinion, first, annual boosters of vaccines are likely to become the normal process, and we must all pray that a variant does not evolve that is resistant to currently available vaccines; secondly, in order for a long-term return to "normal" living, there is likely to be a continuous need for regular testing from an occupational and personal wellbeing perspective, which would benefit the test manufacturers and the service providers. All this is buying more time for better treatments to be developed.

Best of luck with stock selections in 2022!

About the author

Dr Martin Hall

Martin's career in the City started as a healthcare analyst in 1987, working at Morgan Grenfell and then UBS. He joined HSBC in 1992, where he was Head of Global Pharmaceutical/Healthcare Equity Research. In 2005, he set up as an independent Life Sciences Analyst and Corporate Broker under the umbrella of Eden Financial Limited. Martin is acknowledged for his thought-provoking and opinionated research. He joined Hardman & Co in June 2013.

Martin qualified as a pharmacist (B.Pharm.Hons) at the School of Pharmacy, University of London, and has a PhD in Neuropharmacology, also from the University of London. After two years of post-doctoral research under a Royal Society Fellowship at the Collège de France, Paris, he became leader in Biochemical Pharmacology at the Parke-Davis Research Centre in Cambridge. Martin is a member of the Royal Pharmaceutical Society of Great Britain.

Notes

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