



Weekly thoughts on the healthcare sector from finnCap's life sciences analysts: Mark Brewer and Arshad Ahad

Market	Last	-1D	-1M	-3M	-12M	YTD	Health	Last	-1D	-1M	-3M	-12M	YTD
MSCI World Index	1,600	-0.7%	7.1%	-13.6%	-1.7%	-11.1%	MSCI World Pharma/Biotech	217	-0.6%	2.6%	-1.2%	16.5%	1.5%
FTSE All Share	3,282	-0.7%	6.5%	-19.9%	-17.5%	-21.1%	FTSE All Share Health	13,384	0.1%	6.3%	6.4%	25.3%	4.0%
AIM All Share	837	0.5%	11.4%	-13.7%	-12.5%	-12.4%	AIM Health	10,451	0.7%	12.0%	-1.2%	-2.7%	0.8%
AIM 100	4,278	0.4%	11.6%	-13.6%	-15.2%	-13.0%							

The following table provides an overview of key COVID-19 tests being developed by AIM companies, and beyond.

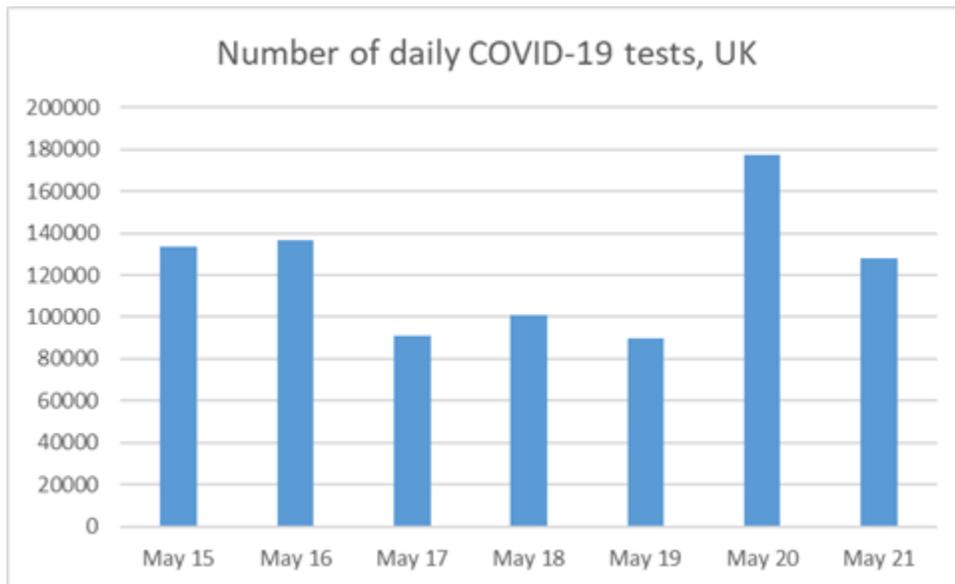
For a round-up of vaccines and treatments in development, please see last week's [Health Matters](#).

Selection of tests approved / being developed for COVID-19

Company	Type of test / test name	Test features	Comment
Roche	Antibody test High Throughput ELISA Elecsys Anti-SARS-CoV-2 Serology Test	Specificity: 99.81% Sensitivity: 100% Available on Roche's cobas e analysers which are widely available around the world	Received FDA Emergency Use Authorisation (EUA) on 3rd May. Roche will provide high double-digit millions of tests in May for US and countries accepting CE mark. Public Health England (PHE) approved the test on 13 May.
Abbott	Antibody test High Throughput ELISA Architect SARS-CoV-2 IgG Alinity i SARS-CoV-2 IgG	Available on Abbott's ARCHITECT and Alinity i platforms Architect SARS-CoV-2 IgG: Specificity: 99.6% Sensitivity: 100% Alinity i SARS-CoV-2 IgG: Specificity: 99.0% Sensitivity: 100%	Works across Abbott's ARCHITECT and Alinity i platforms. The former received FDA EUA on April 15, and the latter received it on 11 May. Abbott plans to ship c.30m test globally in May, and will have capacity for 60m in June. Was PHE approved on 15 May, and Abbott announced it was ready to ship 5m tests to the UK each month.
Quotient and Open Orphan* (AIM: ORPH)	Antibody test Microarray-based assay MosaiQ COVID-19 Antibody Microarray	Specificity: 99.8% Sensitivity: 100%	CE marked on May 1. Announced exclusive contract with hVIVO (subsidiary of Open Orphan*) on May 11. hVIVO will supply the test in the UK. hVIVO intend to make COVID-19 antibody testing available, through MosaiQ, from its lab in London, both as a standalone offering as well as to screen volunteers for future COVID-19 challenge studies. First orders expected in June 2020
Mologic and Omega Diagnostics* (AIM: ODX)	Antibody test ELISA	Specificity: 98% Sensitivity: 99%	On 20 April, ODX signed a Material Transfer Agreement (MTA) with Mologic to provide manufacturing capability for its ELISA antibody test. On 27 April, ODX announced it had CE-marked the test. ODX's manufacturing facility in Cambridgeshire has capacity to produce up to 46,000 tests per day. ODX is also part of a UK Rapid Test Consortium to develop a POC antibody test. Awaiting validation from Public Health England for the ELISA test (imminently) and announcement of design freeze on RT consortium.
genedrive* (AIM: GDR) and Cytiva	Antigen test PCR-based Genedrive 96 SARS-CoV-2	Specificity: 98.2% Sensitivity: 100%	Announced CE-IVD mark today. GDR now intends to apply for FDA and WHO EUA's. Open platform test which works on any manufacturers PCR system, co-developed with Cytiva. The test uses a 'one step' PCR bead format - users just need to add extracted RNA to the sample. Is freeze-dried and stable at ambient temperatures, eliminating need for cold storage and aiding global distribution. GDR are also developing a POC test. First orders expected in June 2020.
Avacta* (AIM: AVCT) and Cytiva / Adeprinx	Collaboration with Cytiva: Antigen test (Affimer-based) Rapid point-of-care (POC) test Collaboration with Adeprinx: Antigen test (Affimer-based) Uses Adeprinx bead-assisted mass spectrometry (BAMS) platform	Cytiva collaboration: Affimer-based rapid POC test capable of diagnosing COVID-19 infection in minutes with no need for lab equipment. Intended for screening large populations. Adeprinx collaboration: 100s of samples per day can be analysed by a single technician using BAMS, exceeding the capacity of single PCR machines.	Shipped Affimer reagents for the test to its test development partners (Cytiva and Adeprinx) on 11 May, several of which have also been shown to block the interaction between the virus' spike protein and ACE2, a receptor on human cells that is key to the virus infection pathway. On 20 May AVCT announced exclusive distribution agreement with Medusa19 Limited for direct-to-consumer sales of the Cytiva co-developed test. Validation of both tests expected by summer 2020, CE marking of rapid POC tests and FDA EUA, with product(s) ready to launch in summer 2020.
Novacyt (AIM: NCT) and Yourgene (AIM: YGEN)	Antigen test PCR-based	Results in under 2 hours and freeze-dried (stable to be shipped at ambient temperature)	One of the first tests available, NCTY launched the CE-IVD Marked test on Feb 17. On 14 May NCTY stated it has 8 dedicated manufacturing sites capable of producing tests at an output rate of over 10m tests per month, which NCTY expects to achieve from June 2020 onwards. As of 28 April, NCTY had sold, received orders for or has been contracted to deliver over £90m of its COVID-19 test. The company is supplying it to more than 100 countries. On 25 March, NCTY signed a contract manufacturing services agreement with YGEN to support production of tests.

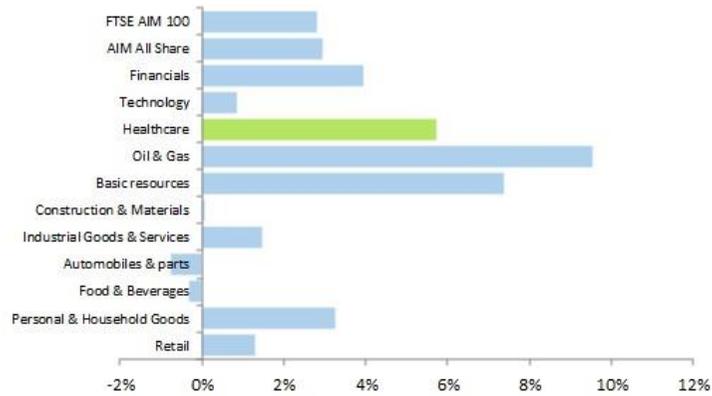
source: finnCap

- Given the almost unlimited global demand, these COVID-19 tests have transformational potential for the above AIM companies.
- Antigen tests identifies whether a person has an active infection, while antibody tests determine whether a person had the virus in the past
- Sensitivity (also called the true positive rate) measures the proportion of actual infections that are correctly identified as such.
- Specificity (also called the true negative rate) measures the proportion of actual negatives that are correctly identified as such.
- Yesterday Health Secretary Matt Hancock announced that more than 10m antibody tests, from Roche and Abbott, will start being rolled out next week
- On 18 May, he announced that everyone aged 5 and over in the UK with symptoms can now book a test to see if they are infected.
- The below figure tracks how many tests were carried out in the past 7 days. The Prime Minister has set a daily capacity of 200,000 by the end of the month.



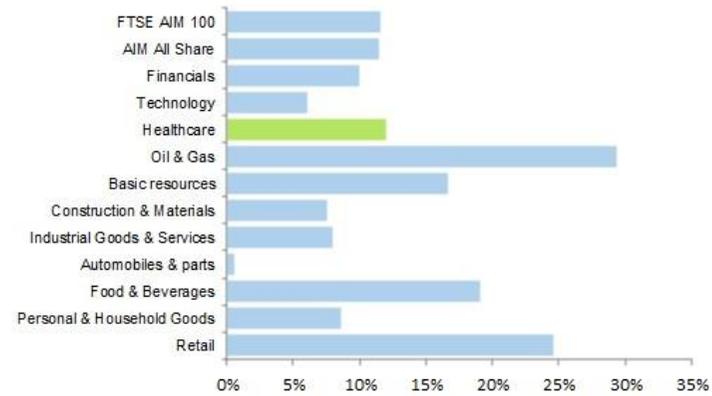
source: Department of Health and Social Care, finnCap

FTSE AIM all share sector performance (1 week)



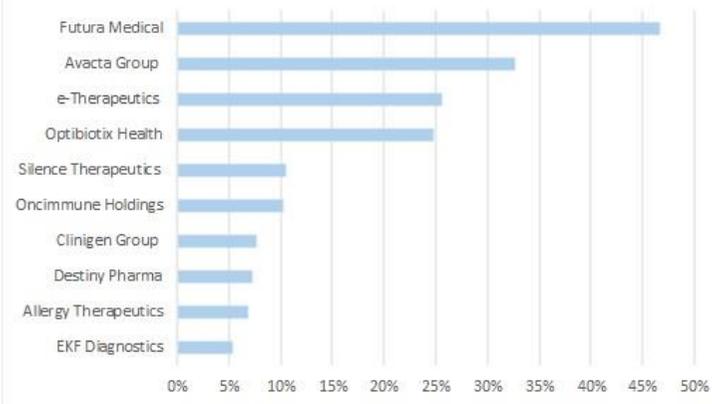
Source: FactSet

FTSE AIM all share sector performance (1 month)



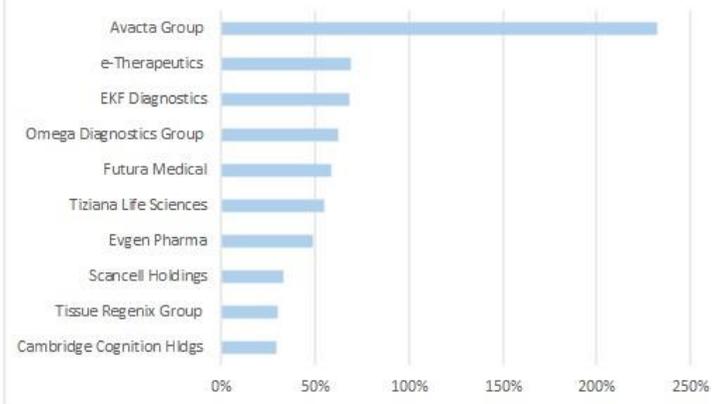
Source: FactSet

finnLife 50 - Top ten price performers (past week)



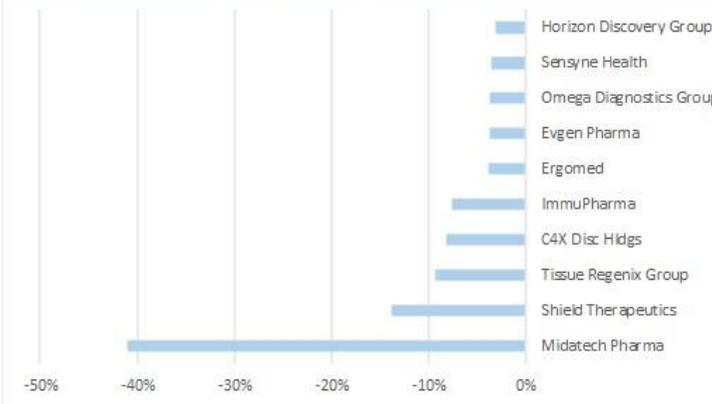
Source: FactSet

finnLife 50 - Top ten price performers (past month)



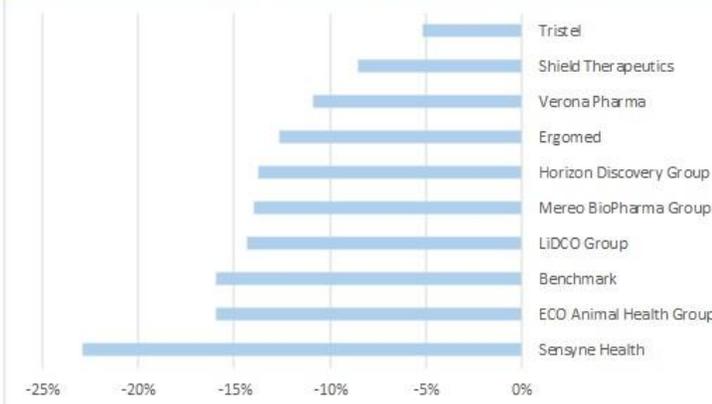
Source: FactSet

finnLife 50 - Bottom ten price performers (past week)



Source: FactSet

finnLife 50 - Bottom ten price performers (past month)



Source: FactSet

Research reports and comments in the past two weeks

Company	Date	Title	Research Type
genedrive*	22 May	COVID-19 test PCR test receives CE-IVD mark	Morning Note (link)
Oncimmune*	21 May	EarlyCDT Lung partnership	Morning Note (link)
Shield Therapeutics*	21 May	FY 2019 results	Company Note (link)
Avacta*	20 May	Distribution agreement for DTC COVID-19 antigen test	Morning Note (link)
genedrive*	18 May	Initial data from India demonstrates HCV ID kit utilit	Morning Note (link)
Avacta*	15 May	Potential COVID-19 therapeutic	Morning Note (link)
Byotrol*	14 May	A pair of licences and a positive trading update	Company Note (link)
Oncimmune*	12 May	Drug development collaboration with US biopharma	Morning Note (link)
ANGLE*	12 May	Peer-reviewed paper demonstrates Parsortix utility	Morning Note (link)
genedrive*	12 May	£7m placing to fund COVID-19 tests	Company Note (link)
Avacta*	11 May	COVID-19 rapid antigen test – update	Morning Note (link)

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expected underperformance of >10%.

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