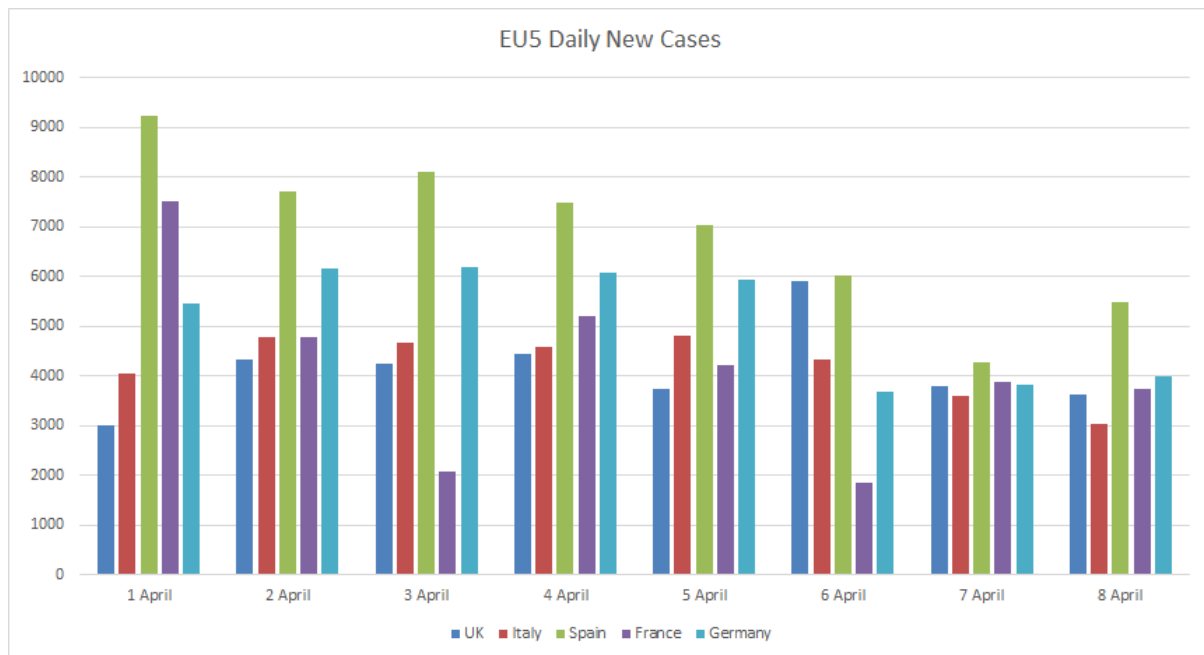


Weekly thoughts on the healthcare sector from finnCap's life sciences analysts: Mark Brewer and Arshad Ahad

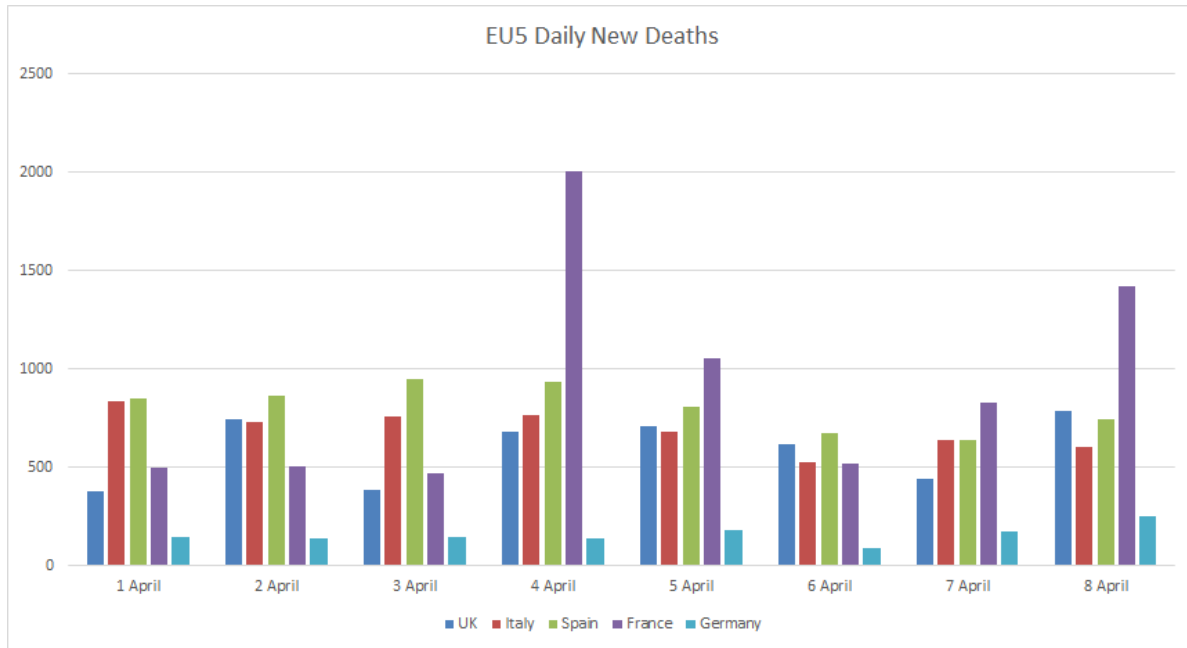
Market	Last	-1D	-1M	-3M	-12M	YTD	Health	Last	-1D	-1M	-3M	-12M	YTD
MSCI World Index	1,500	2.3%	-8.5%	-17.1%	-9.0%	-16.6%	MSCI World Pharma/Biotech	203	1.9%	-1.2%	-5.2%	4.4%	-5.2%
FTSE All Share	3,184	0.0%	-12.8%	-25.3%	-22.8%	-25.2%	FTSE All Share Health	11,226	-0.3%	-5.5%	-12.5%	2.4%	-12.8%
AIM All Share	741	2.1%	-14.5%	-24.1%	-21.3%	-24.1%	AIM Health	8,488	1.1%	-12.1%	-19.4%	-17.3%	-18.1%
AIM 100	3,828	2.5%	-13.8%	-23.7%	-22.7%	-24.1%							

- Graphs below show how the EU5 compare in terms of daily new COVID-19 cases and deaths during April.
- By 7th April, the daily new cases were very similar across the EU5.
- The **UK** recorded its highest daily increase in cases, to-date, on 6th April (5,903).
- **Spain's** drop from 9,222 new cases on April 1st to 4,273 on 7th April is noteworthy.
- Hopefully **Italy** and **Germany** are past their peaks. Both countries had their highest daily increase, to date, way back on March 20, and numbers. have stayed relatively consistent in April.
- **French** cases have been fluctuating up and down.



source: finnCap, WHO

- The **UK** reported its highest daily increase in deaths, to date, yesterday on 8th April (786).
- **France** reported a huge sudden spike in deaths on 4th April, with 2,003 deaths, its highest to date. Deaths halved to 1,053 on the subsequent day.
- Daily deaths in **Italy** and **Spain** remain relatively consistent.
- **Germany** continues to have a very low death rate, as discussed in last week's Health Matters.



source: [finnCap](#), WHO

Testing, testing, testing

- With lockdown fully in place and at the end of its third week, and measures in place to increase hospital beds (e.g. Nightingale Hospital) and ventilator capacity (Ventilator Challenge UK consortium), government and media attention is now focused on COVID-19 testing.
- Large scale testing is key in order for us to be able to exit lockdown and return to our normal lives. Two companies, Avacta* and Omega Diagnostics *, announced collaborations to develop antigen and antibody tests, respectively. These would both be developed as strip tests (lateral flow diagnostics such as a pregnancy test) that do not require processing in the laboratory and therefore could be applied in large scale population screening situations (ie 100s of millions of tests).

Antigen Testing

- This is the testing currently being carried out, and looks at whether a person currently has the virus. It is a molecular diagnostic test, based on a swab test, and using PCR technology.
- 30 such tests have been authorised by the FDA for COVID-19, including the test from Novacyt's (AIM: NYCT) molecular diagnostics division, Primerdesign.
- The government has reported shortages of chemical reagents needed to run these tests, as global demand for them exceed supply.
- More than 213,181 people have been tested so far in the UK.
- In early March, the NHS announced it would scale up daily testing capacity to 10,000, although it was struggling to reach this goal in late March

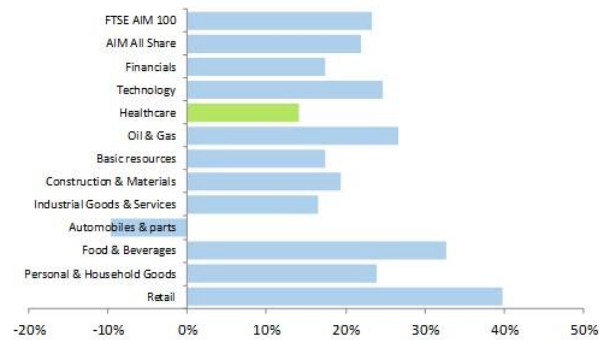
- More than 10,000 people were tested in a single day for the first time on April 1.
- Currently, ~14,000 people are tested a day.
- Germany, by comparison, is testing around 70,000 people a day, and 500,000 a week.
- The UK government aims to reach 100,000 tests per day by the end of April (and given that antibody tests are not ready, as discussed below, this target will be made up entirely of antigen tests). This is a big ask in our opinion, but the direction of travel, given the effort being applied through a range of consortia/partnerships, is clear.
- Yesterday, Avacta* (AIM: AVCT) announced that it has entered into a collaboration with Cytiva, formerly GE Healthcare, to develop and manufacture an Affimer-based point-of-care rapid antigen test for screening of large populations to diagnose COVID-19 infections.
- Suffice to say, the market opportunity for a cost-effective high volume test is significant (>\$1bn). The upside, if successful is substantial, as illustrated by the c.£220m value created by Novacyt's antigen test, boosted by the revelation that it was collaborating with the University of Cambridge and the might of GSK and AstraZeneca.
- Genedrive (AIM: GDR) are also developing two antigen tests. The first can be performed on a variety of platforms already installed in many labs. GDR believes its clinically validated high throughput test format could be available in ~8 weeks, and believes it could ramp quickly to high production volumes of over 10,000 tests per hour.
- GDR's second test, will be adapted to run on the Genedrive instrument platform, to allow testing outside main hospital environments where rapid testing might be required.
- A new COVID-19 diagnosis lab will be set up by AstraZeneca, GlaxoSmithKline and Cambridge University to conduct high throughput screening. No news yet on how many tests that will translate to per day

Antibody Testing

- This could detect if a person had the virus in the past, and has since recovered. Antibody tests would help work out how widespread the disease has been and whether individuals, especially key workers, are safe to return to work.
- Typically antibodies start developing at the time of infection, but peak 3-4 weeks after infection.
- The UK government has agreed deals to buy 17.5 million antibody testing kits.
- While the government was initially very optimistic that antibody tests would roll out quickly, it now does not expect to be doing antibody tests by the end of April.
- In March, Mologic announced that it had been awarded a £1m grant by the UK government to develop a rapid diagnostic antibody test for COVID-19. On March 26, the company announced that it has initiated early validation of the test.

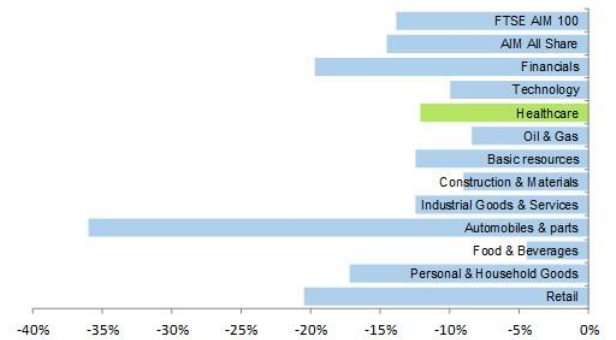
- Similarly, SureScreen Diagnostics has developed a £6 antibody test which it claims is 98% accurate and works in 10 minutes ((it should be noted that it is likely that the 98% accuracy claim has not been independently validated. It is likely that the kit has only been tested in hospitals, on patients with very significant symptoms). BioSure has also developed an at-home finger prick test that takes 15 minutes.
- The government states they are currently engaged with several companies and testing the quality of potential tests.
- However, on 5th April, Health Secretary Matt Hancock said that none of the tests so far were yet “good enough”. Government scientists hope to work with companies to improve the performance of antibody tests.
- It has been claimed that the detection rate may be 50%-60%, after two weeks, especially in asymptomatic or mildly symptomatic cases.
- The government will be trying to get a refund on the 17.5m tests ordered.
- Professor Sir John Bell and researchers at the University of Oxford say they are weeks away from solid validation, and none of the tests so far have performed [well enough](#). “There are 100 or more such test kits from different suppliers available for identifying Covid-19 antibodies, and it is important that each of these is checked for accuracy before making them available to the public”.
- Once a test is validated, it will take at least a month to be scaled up for widespread use.
- Today, Omega Diagnostics* (AIM: ODX) announced it has signed a Memorandum of Understanding with three other companies in the UK (Abingdon Health, BBI Group Holding and CIGA Healthcare) and in conjunction with the University of Oxford to jointly develop and manufacture a COVID-19 point-of-care antibody test. The test will be based on an assay initially developed by Professor Sir John Bell.
- No country has yet rolled out a COVID-19 antibody testing programme. However, the FDA granted Cellex an emergency use authorisation to market a rapid COVID-19 antibody test.
- However its FDA labels states “results from antibody testing should not be used as the sole basis to diagnose or exclude SARS-CoV-2 infection”. Labelling suggests that people who test negative should be checked again in a few days and positive results should be confirmed by other methods. The test provides results in 15-20 minutes.

FTSE AIM all share sector performance (1 week)



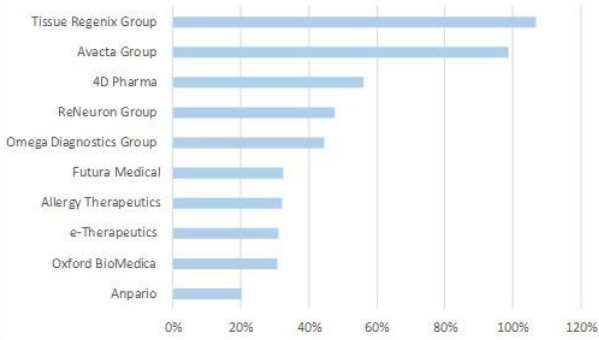
Source: FactSet

FTSE AIM all share sector performance (1 month)



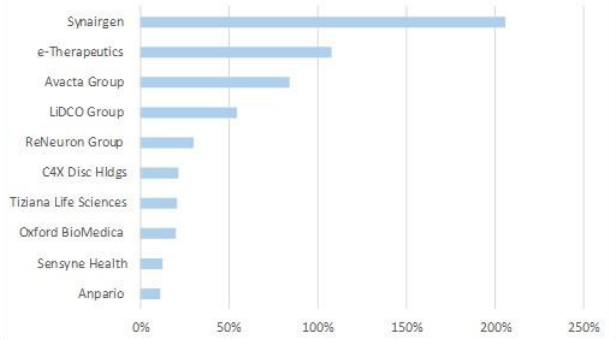
Source: FactSet

finnLife 50 - Top ten price performers (past week)



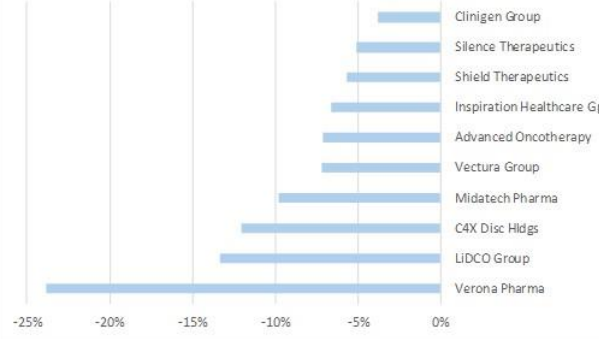
Source: FactSet

finnLife 50 - Top ten price performers (past month)



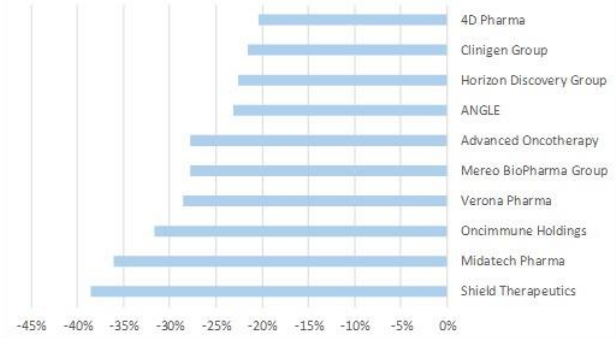
Source: FactSet

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 week

Company	Date	Title	Research Type
Omega Diagnostics*	9 April	COVID-19 antibody test – part of consortium	Morning Note
Avacta*	8 April	COVID-19 rapid POC test for population screening	Company Note
Avacta*	6 April	An additional £3.75m raised by way of Placing	Company Note

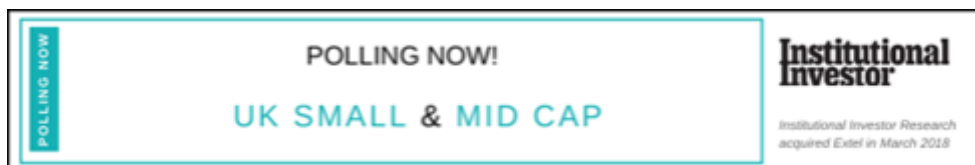
Upcoming roadshows and events in the smaller healthcare company space

Company	Results Date	Roadshow / Event Date
Avacta preliminary results *	21 April	21, 22 April

II UK Small & Mid Cap Research Team 2020 Survey

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