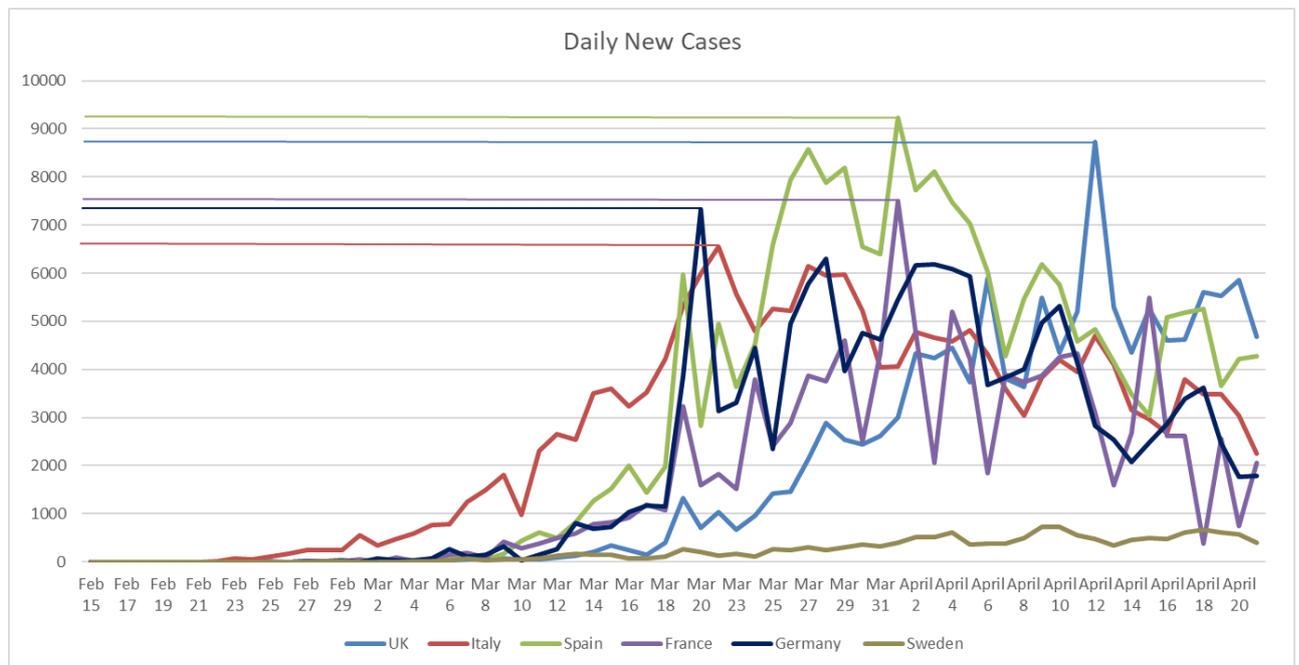




**Weekly thoughts on the healthcare sector from finnCap's life sciences analysts:
Mark Brewer and Arshad Ahad**

Market	Last	-1D	-1M	-3M	-12M	YTD	Health	Last	-1D	-1M	-3M	-12M	YTD
MSCI World Index	1,494	-2.9%	15.9%	-19.1%	-9.8%	-17.0%	MSCI World Pharma/Biotech	211	-1.9%	19.1%	-3.7%	15.6%	-1.1%
FTSE All Share	3,156	-2.9%	9.6%	-26.4%	-23.9%	-25.9%	FTSE All Share Health	12,594	-0.5%	16.1%	-4.8%	20.5%	-2.2%
AIM All Share	759	-1.4%	20.8%	-21.7%	-21.2%	-21.4%	AIM Health	9,335	-1.1%	21.1%	-14.1%	-10.6%	-10.0%
AIM 100	3,884	-1.6%	20.4%	-21.8%	-23.6%	-22.1%							

- The graph below shows daily new COVID-19 cases for the EU5, marking the point at which we hope the daily cases peaked. Sweden is included for comparison.



source: finnCap, WHO

In chronological order:

- Germany: 20th March, 7,324 cases in one day
- Italy: 21st March, 6,557 cases in one day
- Spain: 1st April, 9,222 cases in one day
- France: 1st April, 7,500 cases in one day
- UK: 12th April, 8,719 cases in one day

Given the time that has passed, we can have a higher degree of confidence that Germany, Italy, Spain and France have indeed passed their peaks. While this is hopefully also the case for the UK, it may be too early to declare this.

So now that we may be past our peak, it seems appropriate to think about the strategy for exiting lockdown.

Exiting Lockdown: Countries easing lockdown

Some countries around the world have begun to lift some lockdown restrictions:

- **Austria** allowed small retailers, DIY and gardening stores to reopen last week. Customers must wear face masks and stay 1 metre from each other. All stores to open on 2 May. Museums and restaurants are expected to open by mid-May, if case rates remain under control.
- **Switzerland**: businesses providing personal services, like hairdressers and physiotherapists to reopen from 27 April. Then schools may re-open on 11 May.
- **Germany**, from Monday, allowed some smaller non-essential shops to re-open (e.g. bookshops, car showrooms).
- **Denmark** is allowing some school year groups to return to school.
- **Poland** re-opened shops on 19th April, will re-open borders on 3rd May.
- **Spain**, Europe's strictest lockdown, is allowing manufacturing, construction and other non-essential activity.
- **New Zealand** plans to allow more businesses to trade, starting from next Monday.
- **Ghana** is allowing businesses to re-open and residents to return to work, while practising social distancing. **Iran** is also allowing some non-essential businesses to re-open.

What about the UK? 'Lockdown-lite'?

If the UK follows the same path as the countries above, in the near-term, the first step towards exiting lockdown will simply be a more flexible version of lockdown ('lockdown-lite'), as enforced lockdown gradually shifts into more voluntary social distancing. In the near-term, our social lives (or current lack thereof) are unlikely to be affected, but instead the restrictions around shops and perhaps schools, will become more flexible, with certain low-risk sectors being able to return to work, but the majority still being asked to work from home.

While the UK government remains tight-lipped on the topic, Tony Blair's Think-Tank has released a report on lifting lockdown.

It proposes that the UK could consider easing:

- **Schools**: Given that children are at very low risk. Only 2.4% of cases are under 19. However, the challenge would be to prevent spread among teachers and parents, as well as overcoming reluctance from parents to send their children back to school.
- **Age segmentation**: Given that younger people are at much lower risk and so could be allowed to return to work earlier.
- **Sector segmentation**: Some workplaces pose less risk and could return before others.
- **Geographic segmentation**: Caseload and NHS capacity varies across the country. Several countries have used geographic flexibility in lockdown as rates of infection vary – notably the US, Japan and South Korea.

The following chart uses a traffic-light analysis to assess the merits of different policy options:

	Costs vs benefits?	How quickly can it be done?	Will it be seen as fair?	How practical is it?	Can it be enforced?
Opening schools	●	●	●	●	●
Geographic segmentation	●	●	●	●	●
Age segmentation	●	●	●	●	●
Sector segmentation	●	●	●	●	●
Shielding	●	●	●	●	●
Masks	●	●	●	●	●
Mass testing	●	●	●	●	●
App-augmented contact tracing	●	●	●	●	●

source: Policy Futures - Tony Blair Institute for Global Change

- The Think-Tank also outlines a possible plan of how we could move from a ‘hard lockdown’ towards a ‘soft-open’, and then back the other way, if cases began to rise again.

NB: Thresholds and measures are illustrative	Individuals	Hospitality, entertainment	Transport	Retail	Schools	Other business	Econ impact
Hard Lockdown if • Daily new cases > 500	Only leave home for exercise, medical need or essential supplies	Closed	Essential transport only	Closed	Closed	Only essential business to be done on-site	Economy around 65% (OBR)
Soft Lockdown if • Daily new cases < 500 • Testing capacity > 100k • Tracing capacity > 50% • Shielding	Work if workplace open and clear tracing-app reading, masks where possible otherwise only leave home as for Hard Lockdown. Over-65s as per Hard Lockdown	Partially open with strict capacity limits. Patrons encouraged to show clear contact tracing app reading	Private transport, public transport with masks, social distancing and clear app readings for passengers	Social distancing enforced, entry to shops limited, patrons to wear masks and have clear app reading	Open	Open with social distancing enforced, masks, clear app readings for staff	Economy around 90%
Soft Open if • Daily new cases < 100 • Testing + tracing as for Soft LD	Public gatherings < 100 allowed, travel to low-risk countries allowed	Open, patrons encouraged to show clear contact-tracing app reading	Private transport, public transport with masks and clear app readings for passengers	Social distancing enforced, masks	Open	Open with social distancing enforced, clear app readings for staff	Economy around 95%

source: Policy Futures - Tony Blair Institute for Global Change

Risks of a second peak – “the worst is yet ahead of us”

Easing lockdown, in any way, will increase transmission of COVID-19. A few weeks after restrictions are relaxed, we could be looking at a second peak. On Monday, it was reported that avoiding a second peak is one of Boris Johnson’s top priorities.

Yesterday, WHO director-general Tedros Ghebreyesus warned “trusts us, the worst is yet ahead of us”. WHO estimates suggest that as few as 2-3% of the world’s population may have antibodies in the blood. Ghebreyesus warns that “easing restrictions is the not the end of the epidemic in any country”.

Hokkaido in Japan is an example of what can happen when lockdown is lifted. It was seen as a success story – in February it was the first region in Japan to declare a state of emergency, with schools closed, gatherings cancelled and people encouraged to stay at home. The government was aggressively tracking, tracing and isolating anyone who had contact with those infected.

The above measures worked and by mid-March number of new cases were 1-2 a day. The state of emergency was lifted on 19th March. However, last week a new state of emergency was imposed, and there is no evidence that the virus was re-imported from outside Japan.

It remains to be seen whether Wuhan in China will be able to avoid a second peak.

Where are we with testing?

We have previously talked about the key role of testing in allowing us to exit the lockdown. The UK government still hasn’t found an antibody test it deems reliable enough to use. In terms of antigen testing, on Saturday, 21,626 tests were carried out, and the government claims we now have capacity to carry out 38,000 tests daily. While the government continues to state it can reach the goal of 100,000 tests daily by the end of April, this seems increasingly unlikely. This is where companies such as Avacta* (AIM: AVCT), Omega diagnostics *(AIM: ODX) Genedrive* (AIM: GDR) and Novacyt (AIM: NCYT) can aid in the fight against COVID-19, by increasing the supply of available tests.

- **Avacta** are collaborating with Cytiva (formerly GE Healthcare) to develop an Affimer-based point-of-care antigen test for COVID-19. Avacta are developing Affimers that bind to the SAR-CoV-2 virus that can be used on a pregnancy-like lateral flow diagnostic device, with the goal of being widely used in the community setting as a point-of-care device. Today, Avacta announced that it has successfully generated multiple reagents that bind the SAR-COV-2 viral antigen (four weeks ahead of schedule) and do not cross-react with other closely related viruses, such as SARS and MERS.
- **Genedrive** are developing two antigen tests. The first will be a PCR-based high throughput test, to be run in laboratories. This test is anticipated to launch in 5 weeks (early June). Genedrive are also developing a point-of-care test for COVID-19, based on its proprietary Genedrive instrument platform, which is anticipated to launch in December.
- **Novacyt**: As of 27th March, it had sold and received orders for over £17.8m of its CE-Mark and research use only COVID-19 tests. It is now selling the test in more than 80 countries, with the Middle-East becoming the strongest selling region.
- In terms of antibody tests, **Omega Diagnostics** (AIM: ODX) has partnered with Mologic to provide manufacturing capability for Mologic’s COVID-19 ELISA diagnostics test, the development of which has been funded, in part, by the UK government. The test is currently being validated by Public Health England and could be ready in 2 weeks. In addition, it is part of UK Government sponsored consortium to manufacture a potential lateral flow device based on work from the University of Oxford. A final design freeze has yet to be locked down, however.
- **Roche** states it will be able to produce tens of millions of antibody tests by June.

There is an almost **limitless** demand for tests, and this demand will not subside any time soon, given the need for global, population testing. In addition, it is feared that the coronavirus may become a seasonal virus that is never truly eradicated. In this scenario, there will always be a need to maintain a certain level of testing capacity for the virus, even a few years from now, in order to prevent a future outbreak. As such, tests developed by the above companies will remain relevant long after the pandemic has been brought under control.

Immunity Passports: “We have to learn to live differently”

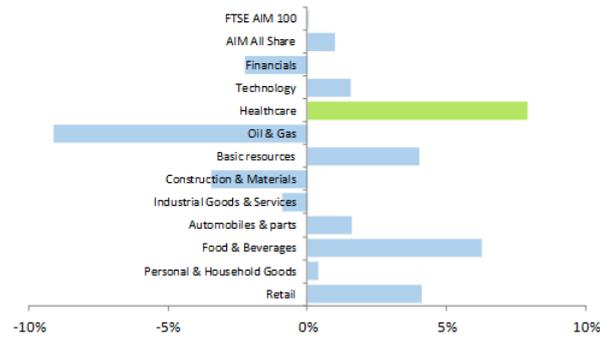
- **Chile** is set to become the first country to issue ‘immunity cards’ to those who have recovered from COVID-19, allowing holders to return to work. This is despite widespread concerns about whether those who have recovered are in fact immune, the accuracy of current antibody tests, and how long any immunity will last. Chile’s health ministry undersecretary stated “We have to learn to live differently”. To qualify for the card, Chileans have to take an antibody test, and must be free of symptoms for at least 14 days.
- **Italy** is another country that is considering immunity ‘licences’.
- **UK’s** Health Secretary, Matt Hancock announced in early April that the government was considering an immune ‘certificate’ system.
- In the **USA**, Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases stated that immunity passports are “being discussed” in the Trump administration.

One of the major drawbacks with immunity passport schemes is that they could incentivise certain groups, such as young people, to actively try and contract the virus in order to be able to return to work and a greater degree of normalcy. And we still do not know what level of immunity is conferred on a person who has been infected or for how long the immunity persists.

Maintain your expectations to avoid disappointment

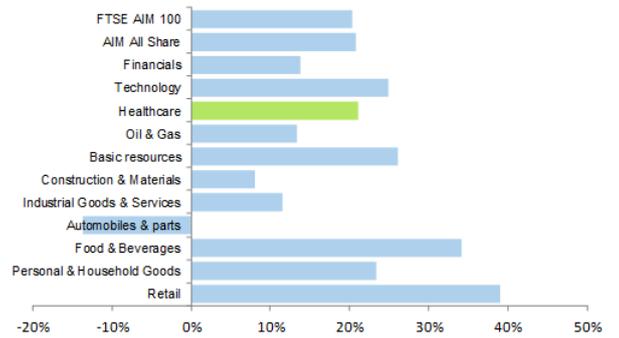
While not a particularly pleasant note to end this week’s Health Matters, it is nevertheless important to state that everyone should try to maintain realistic expectations of what the next few months, and indeed years, will bring. For example, yesterday, a Japanese infectious disease specialist said he is “very pessimistic” about the likelihood of the Tokyo Olympics going ahead **in summer 2021**. While he believes Japan might have the disease under control by then, he doesn’t believe that will be the case everywhere in the world.

FTSE AIM all share sector performance (1 week)



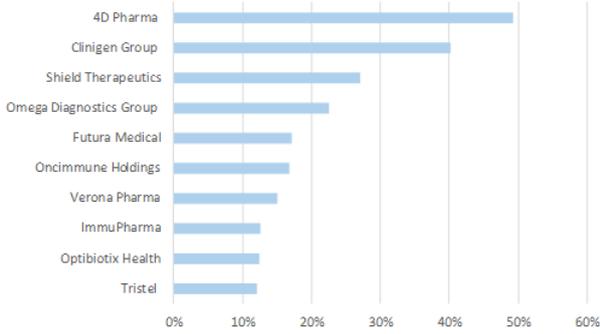
Source: FactSet

FTSE AIM all share sector performance (1 month)



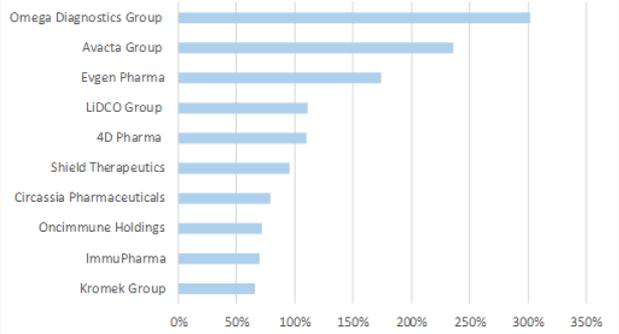
Source: FactSet

finnLife 50 - Top ten price performers (past week)



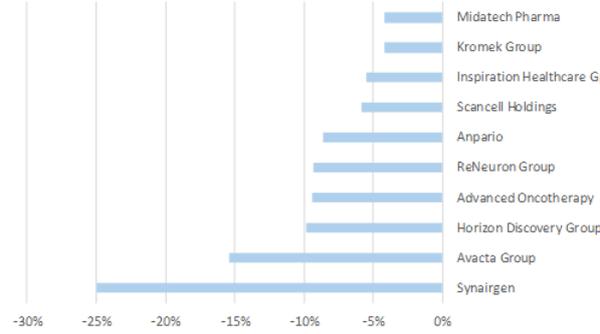
Source: FactSet

finnLife 50 - Top ten price performers (past month)



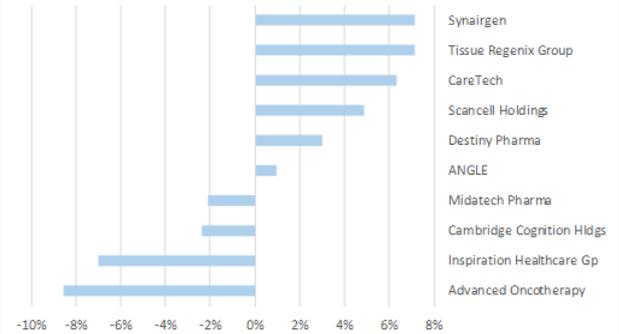
Source: FactSet

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
Circassia Pharmaceuticals*	17 April	Strategic shift	Company Note
ANGLE*	17 April	Utility in Head & Neck Cancer – peer reviewed paper	Morning Note
Omega Diagnostics*	20 April	COVID-19 antibody test – manufacturing Mologic test	Morning Note
Avacta*	22 April	COVID-19 rapid POC test – ahead of schedule	Morning Note
Shield Therapeutics*	22 April	Directorate change	Morning Note

Upcoming roadshows and events in the smaller healthcare company space

Company	Results Date	Roadshow / Event Date
Avacta preliminary results *	6 May	6, 7 May

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