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	1,451	4.3%	-16.6%	-19.8%	-9.8%	-19.4%	MSCI World Pharma/Biotech	188	4.3%	-10.1%	-12.5%	-2.3%	-11.8%
FTSE All Share	3,062	2.5%	-19.0%	-25.0%	-19.1%	-24.2%	FTSE All Share Health	11,089	0.2%	-9.3%	-15.4%	0.5%	-13.9%
AIM All Share	671	2.5%	-25.5%	-28.6%	-25.0%	-29.2%	**AIM Health**	8,333	1.5%	-15.6%	-20.4%	-15.3%	-19.6%
AIM 100	3,436	2.6%	-24.6%	-28.8%	-25.7%	-29.1%							

- While companies are working on a vaccine for COVID-19, they could take 12-18 months to arrive, if they arrive at all.
- In the shorter-term, companies and institutions are fast-tracking investigation and development of therapies to treat COVID-19, and associated complications.
- An overview of therapies are provided in the following table, and promising therapies are discussed in further detail below:

Treatments being investigated for COVID-19			
Company	**Product**	**Phase**	**Comment**
Gilead	remdesivir	Phase III: Two randomised, open-label, multicentre studies. Enrolling ~1000 patients primarily across Asia.	Antiviral, and one of the most promising prospects, and is being studied a high number of patients. Phase III began in March.
Roche/Chugai	Actemra (tocilizumab)	Approved for RA Chinese approval for treating COVID-19. Phase III trial for COVID-19 approved by FDA, 330 patients.	Anti-IL6R monoclonal antibody (mAb). COVACTA US trial will begin in April. Chinese approval for treating COVID-19 patients with lung complications, stems from hope that the drug could be able to interrupt 'cytokine release syndrome' (CRS)
Fujifilm	Avigan (faviparivir)	Approved for flu Approved for COVID-19 in China Trial in 340 COVID-19 patients	Antiviral. Early data from Chinese licensee (Zhejiang) suggest a benefit in early stage disease.
Sanofi / Regeneron	Kevzara (Sarilumab)	Approved for RA Phase II/III trial for severe COVID-19 patients. Multicentre, double-blind, 400 patients, in the US.	Anti-IL6R mAb. Following Actemra's successful initial results in China, Sanofi/Regeneron hopes its mAb will have similar efficacy.
Synairgen	SNG001 (Inhaled interferon beta)	Phase II, 100 mild-moderate hospitalised patients. Double-blind, placebo controlled trial.	Naturally occurring protein. Addition of exogenous IFN-beta before or during viral infection of lung cells either prevents or greatly diminishes cell damage and viral replication, respectively. Trial begins this week.
Generic (Bayer, Mylan and Teva, Others)	generic chloroquine and hydroxychloroquine	Small investigator-led study in 24 patients. French govt plans to run larger studies.	Anti-malarial that has been around for 70 years. Positive results in small study. Hydroxychloroquine is an analog of chloroquine that is considered to be less toxic, and the University of Minnesota began a trial to investigate it for prevention and treatment of COVID-19 in late March. It seeks to enrol 1,500 volunteers, although currently only has 25.
AbbVie	Kaletra (Lopinavir-Ritonavir)	Approved for HIV Failed COVID-19 Trials in China UK early clinical testing	Antiretroviral. UK investigator-led trial began 19th March, hoping to roll it out to more than 150 hospitals. Kaletra failed in 199 patient trial in China. Russia recommended the combo this week for mild COVID-19 cases.
Generic (Merck and others)	generic losartan	Approved for high blood pressure Clinical testing for hospitalised and non-hospitalised COVID-19 patients	Angiotensin receptor blocker. University of Minnesota began a trial to test whether losartan can reduce fatality rates in hospitalised patients and also reduce hospitalisation rates.
Generic (Takeda and others)	generic colchicine	Approved for gout and Behcet's disease Clinical testing for COVID-19 complications.	Anti-inflammatory agent. Montreal Heart Institute has begun COLCORONA trial. Hopes to recruit 6,000 candidates from Quebec over the age of 40.
Regeneron	Antibody cocktail therapy	Pre-clinical	Plans to enter clinical trial by early summer
Takeda	TAK-888 (Hyperimmune globulin)	Early	Plasma derived therapy intended to boost the immune function of infected COVID-19 patients. Previously shown to help those with severe acute viral respiratory infections.
Tiziana Life Sciences	TZLS-501	Early	Anti-IL6R mAb. Dual-mechanism of action may have advantages over other anti-IL6R mAbs such as Actemra and Kevzara.
Eli Lilly and AbCellera	Antibodies	Early, target identification	Began in March by procuring blood sample from US patient recovered from COVID-10. Is assessing antibodies' effectiveness against COVID-19.
Alnylam and Vir	RNAi therapeutics	Early, in vitro potency assays	Synthesised 350 siRNA's targeting genomes of COVID-19.

Source: finnCap

Remdesivir (Gilead)

- Originally developed for Ebola, this antiviral has become one of he most promising prospects for COVID-19 treatment.
- The two new Phase III trials expands ongoing research into remdesivir against COVID-19, including two trials in China, as well as a trial in the US.
- Results from the China trial expected in April. Remdesivir is not yet approved anywhere in the world. It has demonstrated broad-spectrum antiviral activity in both in vitro and in vivo animal models.
- Gilead sought orphan drug status for the drug as a possible treatment for COVID-19, but this week asked the agency to rescind the status, upon accusations of COVID-19 profiteering.

Actemra (tocilizumab - Roche)

- Roche's anti-inflammatory drug recently received a rapid Chinese approval in COVID-19 patients with lung complications.
- Roche donated $2m worth of the drug to China to help manage its outbreak.

- Preliminary findings from a single-arm, 21-patient Chinese trial found that COVID-19 patients experienced rapidly reduced fevers, with 75% of patients experiencing a reduced need for supplemental oxygen, after treatment with Actemra.

Avigan (faviparavir - Fujifilm)

- This Japanese flu drug received Chinese approval for treating COVID-19 after delivering encouraging outcomes in a trial of 340 patients in Wuhan and Shenzhen.
- According to reports, the patients in Shenzhen who were administered faviparavir turned negative for the virus after a median of four days after becoming positive, as compared to a median of 11 days for patients who were not treated with the drug.
- Additionally, X-rays showed improvements in the lung condition of 91% of the patients who were administered favipiravir, as compared to 62% of patients who were not treated with the drug.

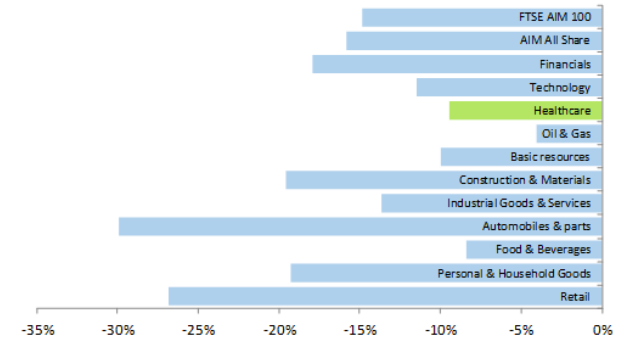
SNG001 (Inhaled interferon beta – Synairgen*)

- Formulation of interferon beta for direct delivery to the lungs via nebulisation.
- Double-blind, placebo controlled trial of SNG001 in mild-moderate COVID-19 patients begins this week. Addition of exogenous IFN-beta before or during viral infection of lung cells either prevents or greatly diminishes cell damage and viral replication, respectively.
- SNG001 was identified in WHO's landscape analysis of therapeutics at 17 Feb 2020 as the only Phase II/III observational therapy delivered by the inhaled route.
- Synairgen raised £14m this week, and those funds will be used to fund the trial activity, manufacture SNG001 and also for working capital requirements.

Chloroquine and hydroxychloroquine (generic – various companies)

- Chloroquine is an antimalarial that has been around for 70 years, and hydroxychloroquine is considered to be a less toxic form.
- In a small French study of chloroquine in 24 COVID-19 patients, of those who received the medicine, only 25% tested positive for the virus after six days. Of those who did not receive the treatment, 90% tested positive after six days. The French government plans to run larger studies.
- Donald Trump declared chloroquine "very powerful" with "very, very encouraging early results" and at request of the US government, Teva has agreed to donate over six million doses of hydroxychloroquine sulfate tablets across the country. But what does Donald Trump really know…
- The University of Minnesota plans to run a trial of hydroxychloroquine in 1,500 volunteers, although recruitment has been slow thus far.

FTSE AIM all share sector performance (1 week)



Source: FactSet

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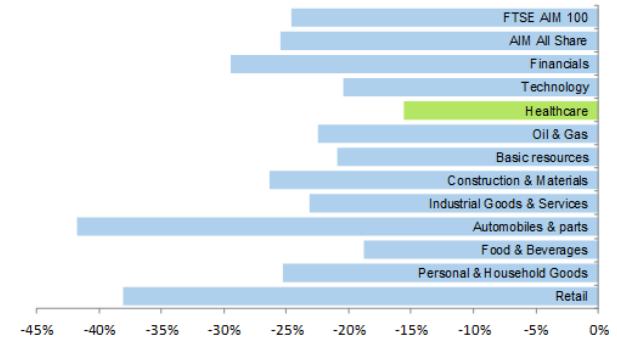

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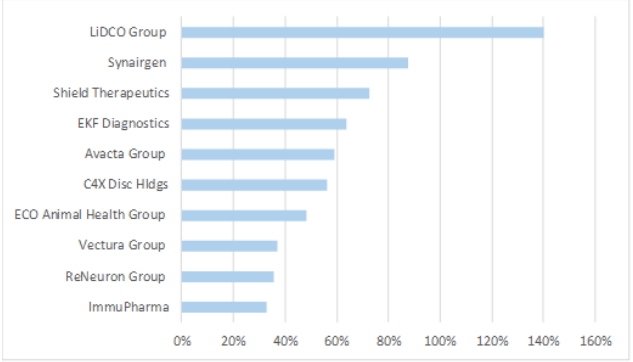
finnLife 50 - Top ten price performers (past week)



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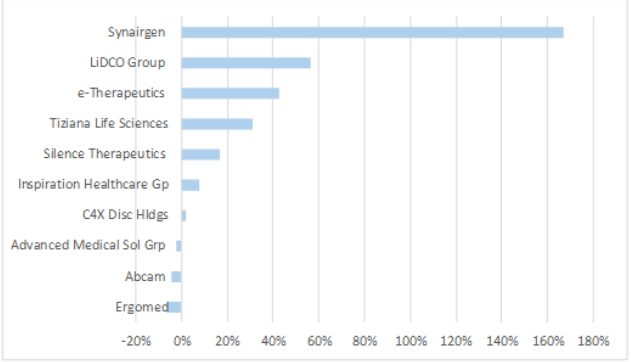

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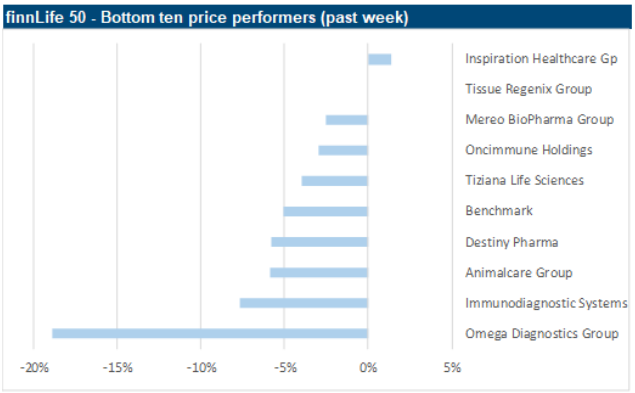

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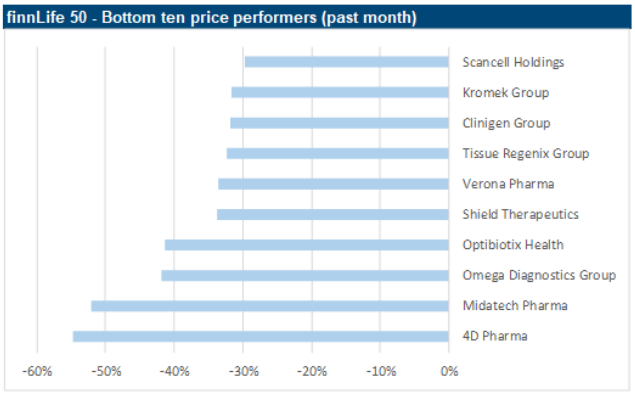

Source: FactSet

Research reports and comments in the past week

Company	Date	Title	Research Type
Synairgen*	26 March	£14m placing to fund COVID-19 activities	Company Note
Byotrol*	23 March	Tristel* agreement and trading update	Morning Note
Tristel*	23 March	Byotrol* supply and licensing agreement	Morning Note

Upcoming roadshows and events in the smaller healthcare company space

Company	Results Date	Roadshow / Event Date
Bioventix *	30 Mar	30,31 March and 1 April
Avacta preliminary results *	21 April	21, 22 April

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