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Opinion Paper

The effect of a pandemic on the Life Sciences industry

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The effect of a pandemic on the Life Sciences industry

Pharmaceutical, healthcare and biotech companies have been at the forefront of the COVID-19 response, from drug trials and vaccine development to the production of personal protective equipment (PPE) and ventilators. The industry has a unique ability and responsibility to help the world respond to the global pandemic, both by working collaboratively to deliver solutions to the virus and also by maintaining the supply of medically important products to those who need them.

As in all industries, business in the sector has been disrupted by the virus. This is largely driven by a reduction in healthcare provider and patient interactions as hospitals redirect resources toward COVID-19, and patients avoid healthcare facility visits and postpone preventative care. The impact on specific companies will depend on the diversity of their portfolio and their largest revenue areas. For example, roughly two thirds of Merck's global Human Health revenue is comprised of physician-administered products and decreased volumes during the pandemic are expected to have a negative impact on revenues.

Whilst much of the pandemic impact will be short term, peaking over the next quarter in conjunction with the peak of the virus in the US and Europe and settling towards the end of the year, it is likely we will see some long term structural change in the industry as global attitudes towards health shift in the wake of the pandemic.

In the short term

Many medical devices companies are seeing a near-term negative impact from COVID-19. The area's most hit have been orthopaedics and quality of life procedures such as aesthetic surgery and ophthalmic surgery, leading to a decrease in demand for devices such as artificial joints and intraocular lenses. For the same reasons, there is likely to be a decline in robotics, which has been a major area of focus in the orthopaedics and spine industry recently. This is expected to continue while elective procedures are deferred, and hospital resources are redeployed to address patients impacted by the pandemic. When routine healthcare services resume, we expect these areas to bounce back as demand spikes to meet the needs of the thousands of patients who have had their procedures postponed.

In the meantime, firms able to do so are utilising their expertise in production to address shortages during the pandemic. For example, Johnson & Johnson are utilising their supply chain delivery in 3D printing expertise, in collaboration with Prisma Health, to manufacture and distribute ventilator parts at no cost to healthcare providers.

In contrast, telehealth devices, previously considered a novelty, have been invaluable during the pandemic. The COVID-19 symptom tracker app, developed in March 2020 by Kings College London and the health data science company Zoe, had 750,000 downloads in the UK within the first 24 hours and almost 2.7 million users by the end of April 2020. The aim of the app is to help slow the outbreak by helping researchers determine how quickly the virus is spreading and map areas that are most affected. This ability to harvest patient data from across the country despite the decline in hospital and primary care presentations will contribute to disease modelling efforts and improve the accuracy of disease course predictions. Pando, a communications app for doctors, has created forums to allow doctors to swap notes on how to manage the outbreak. In March, 400,000 doctors were using the app, up 400% from the previous month. It is likely these methods of online information sharing will continue long after the pandemic subsides, representing a structural shift

towards the use of apps to allow real-time collaboration between doctors and hospitals which could improve patient care in the long run.

The pandemic has also affected the supply and demand of pharmaceuticals. One such example is the decline in the use of hospital-administered drugs as infusion centres are being repurposed as COVID-19 treatment centres, infusion times are staggered with lower chairs to comply with social distancing policies and patients are reluctant to make regular visits to healthcare facilities. At home administration and no requirement for lab monitoring are clearly an advantage in the current situation and, where appropriate, IV drugs requiring outpatient administration will be replaced by oral or subcutaneous therapies that can be self-administered at home.

Even oncologists are delaying appointments and procedures as they prioritise patients based on severity and the immediate effects of different tumour types, resulting in extended dosing schedules for existing patients and delays in the start of therapy for newly diagnosed patients. NICE have issued new guidelines on interim oncology treatment during the pandemic. These guidelines are specific to the type of cancer and, whilst individual patient decisions must still be made by multidisciplinary teams, recommendations include switching from IV to oral therapies to reduce inpatient visits, and stopping first-line immunotherapy or chemotherapy in some instances to reduce hospital admissions and lower the risk of neutropenia. Whilst pharmaceutical companies could see a decline in revenues from effective therapeutic classes, these trends are likely to be transient and usual treatment courses will resume when infection rates and the transmission risk associated with hospital admission subsides.

In contrast, there has been an increase in primary care compliance in recent weeks with patients stocking up on chronic medications. Manufacturers of steroid inhalers, used in the routine management of asthma, are experiencing significant demand as patients try to stock up in light of the pandemic, causing severe shortages. The British Thoracic Society has warned that demand for inhalers has increased by 400% and in the UK, several inhalers have been listed as out of stock by All About Health, which distributes pharmaceutical and healthcare products to pharmacies, hospitals and doctors.

Some companies have seen a net positive impact on consumer health, associated with consumers “pantry loading” to ensure they have access to products during the pandemic. This stockpiling of consumer goods will not continue throughout the year, however, and lower footfall in stores may not be offset by the rise in e-commerce, meaning sales may drop off over the next few months.

There has been a similar positive trend in over-the-counter medicines, as consumers look to self-manage conditions such as fever and pain. Some companies have taken advantage of this and increased manufacture of drugs that are in high use during the pandemic. Johnson & Johnson have increased production of their antipyretic Tylenol by running their manufacturing plant 24/7 and refocusing manufacturing lines to make the easiest-to-produce pills so that they can increase throughput.

Demand for routine vaccines has fallen with the reduction in in-person visits to physicians. Both the American Academy of Paediatrics and the CDC have recommended pushing out the routine immunisation of all children in the US, except those under 24 months. Merck has reported impacts to their vaccine portfolio, not only for paediatric vaccines but also for their HPV vaccine Gardasil and their pneumococcal vaccine Pneumovax. This impact will be short term and as we head into the flu season towards the end of the year, pneumococcal vaccines will come back strongly.

Clinical trials for non-COVID drugs have also been impacted, with some pharmaceutical companies reporting either delays to the start of new trials or the interruption and delay of ongoing trials. Although the EMA have, in some instances, recommended the possible temporary halt, postponement or extension of trials and the suspension of new participant enrolment, they have also recommended a number of potential changes that would allow trials to continue. Sanofi have managed to keep more than 90% of patients on study and have continued to recruit patients to ongoing studies. The methods used to achieve this have included direct to patient shipping of investigational products, organising in home infusions of IV drugs to avoid visits to healthcare centres, using telemedicine for patient assessments and conducting site visits virtually using video conferencing.

In the long term

As expected, there has been an increase in demand for PCR tests for COVID-19 as countries are increasing their testing targets. Roche has been ramping up its production capacity after the FDA issued Emergency Use Authorisation for its PCR test and have seen a 20% growth in molecular diagnostics. They expect their serum antibody test to be developed in May with a production forecast of high double digit million tests by June. Sanofi is partnering with Luminostics on a home-testing that could be available by the end of 2020.

With regards to drugs for COVID-19, whilst therapeutic trials are ongoing, any positive trial results will lead to stockpiling of effective drugs as countries brace themselves for a second peak in infections. It has been suggested by many companies that, although the provision of repurposed drugs won't provide significant financial benefit, it is critical that organisations are mobilised so that if the drugs do have some application, inventories are built and pharmaceutical companies are able to do their part. Sanofi have already offered 100 million doses of hydroxychloroquine to around 50 countries, pending the outcome of ongoing trials. Similarly, any successful vaccine candidate will likely be sold on a not-for-profit basis and so, despite huge demand, will not be a source of large financial gain for pharmaceutical companies. However, the industry's approach to fighting the pandemic will likely cause a positive shift in the public perception of big pharma. There has been a huge drive from the industry to work collaboratively during these times, not only with regulators and health organisations, but we have also seen partnerships developing between companies that have previously been competitors. Sanofi's CEO recently described the Sanofi-GSK COVID-19 vaccine partnership as an "unprecedented alliance of two vaccine giants".

Conclusion

Although the industry expects decreased volumes over the next few months due to the reduced access and social distancing impacts as the virus peaks in the US and Europe, we expect to see this dynamic subside as hospitals begin to normalise and social distancing measures are lifted. At this point, there will likely be a phased return to normal levels of volumes as people adjust and find ways to address the needs of health and healthcare beyond COVID-19.

However, it is also likely we will see long term structural changes in the industry, such as focus on routine vaccines as the population becomes more concerned about general health and the risks associated with infectious disease. There is a chance that flu being held in low regard in Europe will change significantly after this pandemic, benefiting firms that produce annual vaccines for the virus. Telehealth will become more popular due to reduced barriers to seeking medical help online and we will also see more stockpiling of medicines to equip healthcare systems for possible future outbreaks.