BIOPHARMA'S RESPONSE TO COVID

Groundwork Intel May 2020







PROMPT DEPLOYMENT OF R&D RESOURCES

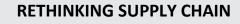


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ALLIANCE & COLLABORATION TO FAST-TRACK DRUG DEVELOPMENT

LEVERAGING DIGITAL TECHNOLOGY







PROMPT DEPLOYMENT OF R&D RESOURCES

Many companies have paused enrollment in many new and ongoing clinical trials in response to the COVID-19 pandemic.

Pfizer, Merck, Enanta and Bristol Myers Squibb join the likes of Eli Lilly, Provention Bio and Belgiumbased Galapagos in pausing the launch of some new studies, as well as enrollment in some ongoing studies.

- Since the emergence of the novel coronavirus, pharma companies have stepped up efforts and are engaged in research efforts to develop vaccines and treatments in order to contain the virus
- R&D biopharmaceutical companies are part of a wider research community which is collaborating to fast-track the development of therapeutics, diagnostics and new vaccines.
- Two of the world's biggest vaccine makers, <u>GlaxoSmithKline</u> and <u>Sanofi</u>, are collaborating on a COVID-19 vaccine. The pharma giants are aiming to get a treatment on the market in the next 12 to 18 months.
- Sanofi will contribute its S-protein COVID-19 antigen, which is based on recombinant DNA technology, or the practice of joining together of DNA molecules from different species. For its part, GSK will contribute its proven pandemic adjuvant technology to the collaboration.



ALLIANCE & COLLABORATION TO FAST-TRACK DRUG DEVELOPMENT

Several organizations and companies in the sector have formed alliances to fast-track the development of drugs and vaccines against the novel coronavirus amid a global pandemic.

PFIZER

Pfizer calls on all members of the innovation ecosystem from large pharmaceutical companies to the smallest of biotech companies, from government agencies to academic institutions—to commit to work together in addressing this dire crisis," Bourla said in a statement. "With our combined efforts we know that there is no health challenge that we cannot overcome."

CSL BEHRING

CSL Behring (CSL Limited is the parent company) together with Takeda set up a partnership bringing together world-leading plasma companies to focus on developing and delivering a hyperimmune immunoglobulin in the global fight against COVID-19.

LILLY & ABCELLERA

Lilly and AbCellera agreed to co-develop antibody products for the treatment and prevention of COVID-19, the disease caused by the SARS-CoV-2 novel coronavirus. The collaboration will leverage AbCellera's rapid pandemic response platform and Lilly's global capabilities for rapid development, manufacturing and distribution of therapeutic antibodies..

MULTIPLE — OTHERS

A consortium of life sciences companies including pharma giants such as Novartis and Johnson & Johnson, are to collaborate to develop and manufacture vaccines, diagnostics and treatments for COVID-19 in a response to the coronavirus pandemic



LEVERAGING DIGITAL TECHNOLOGY

Digital technologies will be the most transformative force for healthcare and pharma in the 2020s, in all the spheres

- Increased pressure to accelerate innovation, optimize production, comply with regulators, will lead to more pharmaceutical companies joining the surge toward fully digital labs.
- The manufacturing environment will continue to embrace digital too.
- The R&D based companies which thrive in the 2020s will use AI/ML to optimise their use of the best data available to generate insight on patients and their journey and identify the candidates for trial effectively and rapidly.
- With the rapid onset of the virus, several pharma companies have changed the way they interact with HCPs and consumers.
- Accordingly, companies are also reevaluating their marketing and sales strategies for the new obstacles that their customers are facing while implementing
 and leveraging key tech solutions to facilitate virtual engagement.

SEVERAL PHARMA COMPANIES ARE LOOKING FOR DIGITAL EXPERIENCE FROM OTHER SECTORS FOR THE IMPORTANT C-SUITE POSITIONS:

- Merck hired its first chief digital and information officer, whose most recent experience was with consumer product companies, including Nike Inc.
- Novartis' chief digital officer was previously the CDO at one of the U.K.'s largest online retailers, and also held senior positions at Amazon.com.
- GSK created the position of chief digital officer, hiring Karenann Terrell, the former chief information officer at Walmart, who will use new technology in data analytics and cloud computing applied to drug development. GSK added Marc Speichert, formerly of Google, as its chief digital officer for the consumer unit.



RETHINKING SUPPLY CHAIN

THE SECTOR IS UNDERGOING MASSIVE DISRUPTION IN SUPPLY CHAINS:

RISE IN STOCKOUTS

In the last two months since the pandemic began, 15 new drugs have been added to the FDA drug shortage list.

While the most innovative biologics or non-small molecules are made in the US and EU, there are **more than 600 US FDAregistered facilities in China**, providing more than 1,000 APIs to the US market. According to a study by University of Minnesota, 80% of the drugs marketed in the United States, including 19 of the 20 top-selling brand names, are made overseas.

SUDDEN INCREASE IN DEMAND

Products used to treat acute viral illness experiencing a short-term jump in demand due to COVID-19 admissions.

In early April, the FDA reported shortages of hydroxychloroquine and chloroquine, antimalarial drugs that were speculated to be front-runners for a possible Covid-19 therapeutic.

SOME FACTORS OF CONSIDERATIONS, AS PHARMA COMPANIES PREPARE FOR A POST-COVID ERA ARE...

Shifting production locations so that production is closer to end markets or in lower-risk countries

As the adoption of digital tools, telehealth and ap-based ecosystems increase, supply chains are also becoming more patient-centric

According to McKinsey, there may be a shift away from global supply chains to self-sufficient local supply chains





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Thank You!