IMPACT OF COVID-19 ON HUMAN VACCINE MARKET

COVID-19 is a respiratory ailment caused by coronavirus. Currently, the world is facing a pandemic due to this disease. The pandemic has posed a positive as well as a negative impact on the human vaccines market.

There is no existing vaccine available for the prevention of the disease, and biotechnology and pharmaceutical companies are investing huge amounts on the R&D of a human vaccine for the prevention of COVID-19. For instance, on 7 May 2020, Moderna, a US-based company that has a vast and innovative pipeline of mRNA- based vaccines for the treatment of various diseases, received the US Food and Drug Administration's (FDA) approval for its investigational new drug (IND) application for mRNA-1273 and proceeding it for the phase-2 clinical trials. The company received funding for its phase-1 clinical trial's vaccine batch from the Coalition for Epidemic Preparedness and Innovation (CEPI). On 16 April 2020, the company had also received an award of USD 483 million from the BARDA, a US government agency, for accelerating the development of mRNA-1273. Furthermore, on May 1, 2020, Moderna also signed a strategic collaboration with Lonza to manufacture mRNA-1273 and enable manufacturing of up to 1 billion doses per year, which is said to be enough for over one-eighth of the world' population. This has caused a positive impact on the market.

The pandemic has also resulted in a lot of acquisitions, mergers, and collaborations for the development of a vaccine, which has accelerated the growth of the human vaccines market tremendously. For instance, in April 2020, AstraZeneca collaborated with the University of Oxford for the global development and distribution of the University's potential recombinant adenovirus vaccine aimed at preventing the infection of SARS-CoV-2. This collaboration aimed to bring to patients the potential vaccine known as ChAdOx1 nCoV-19, being developed by the Jenner Institute and Oxford Vaccine Group, at the University of Oxford. Under the agreement, AstraZeneca would be responsible for the development and worldwide manufacturing and distribution of the vaccine.

The demand for vaccines, such as the Bacillus Calmette-Guerin (BCG), is also expected to increase as it was reported by experts that the vaccine is effective for the prevention of COVID-19. For instance, on 6 April 2020, scientists in Melbourne, Australia, started administering the BCG vaccine or a placebo to thousands of physicians, nurses, respiratory therapists, and other healthcare workers. This program was the first of the several randomized controlled trials intended for testing the vaccine's effectiveness against the coronavirus.

The outbreak of COVID-19 has applied a lot of pressure on global vaccine manufacturer production capacities, supply chains and logistics. According to the latest report on 29 April 2020, by the United National Children's Fund (UNICEF), there has been an approximately 70 to 80% decline in the planned vaccine shipments. This is further impacted as the capacity of the available cargo flights is also reduced. It also stated that 26 countries had been identified, which are at risk of stock-out of at least one vaccine that is included in their routine immunization programs. Moreover, as advised by the World Health Organization (WHO) and the Global Polio Eradication Initiative, vaccine campaigns have been postponed.. Some countries have also suspended their planned preventative campaigns. The routine immunization programs have also been negatively impacted. Many countries have reported a reduction

in the outreach activities, as well as a reduction in the demand in consideration with the COVID-19 to reduce the risk of disease transmission.