

Collaboration to accelerate 'Clinical to Commercialisation' of vaccines

12 October 2022 | Views | By Aditya Sharma, Head of BioProcess business for the India Region – Merck Life Science

The need to upgrade India's robust vaccination network

When the COVID-19 outbreak was declared a pandemic nearly two and a half years ago, several vaccine candidates were approved for emergency use. The catastrophe was compounded by the virus' rapidly mutating, extremely contagious, and immune evasive traits. The concerted efforts of the vaccine manufacturers and the regulators, and suppliers – with the latter offering services including expansion of facilities, supply of technology, products, and manpower – helped save millions of lives. Now as we look back and with a vision for the future, we need to ask these questions: what can we do for even better manufacturing and distribution of vaccines? And how does India fare here?

India's Marvellous Inning In Vaccine Manufacturing

When it comes to vaccine manufacturing, India has been at the forefront, meeting over 60% of the world's demand and supplying over 2.4 billion doses of COVID-19 vaccines. According to the EY FICCI Pharma Report 2021, India's pharma exports in 2021 accounted for over \$20.7 billion. Being a pioneer in vaccine manufacturing, now the nation is moving towards innovative technologies including protein subunit, mRNA and plasmid platforms which greatly enhances India's scope in regulated markets around the world. While this is welcome, what is also needed is a strong distribution network so that a timely rollout of vaccines and drugs happens seamlessly.

Collaboration and Skill Development To Accelerate Drug And Vaccine Development

The acceleration of drug and vaccine development programmes cannot be done without having the latest technology and the right minds to run it. That is why collaboration and skill development should be at the core of everything as there is a need to spur innovation and entrepreneurship among the youth. These training programs, which should be led by a team of experts, scientists, and engineers, can ensure that there is no dearth of qualified personnel in the industry. Along with this, the established suppliers can partner with emerging biotech companies, share their technology, knowledge, and expertise with them. A novel way of doing this is through collaboration programs, where the suppliers and incubators can provide high-quality labs to early-stage companies and offer planned training sessions with them.

Speaking of Biotech there is an urgent need to make progress in traditional and novel modalities: mAb (Monoclonal Antibody), ADC (Antibody-drug Conjugates), Gene Therapy, and mRNA. Through new products, acquisitions, expansions, and partnerships, the established suppliers can ensure that the emerging players have the technology and the support to bring these therapies are able to reach a much larger number of patients.

A Vision For The Future – Pharma Industry 4.0

The way ahead lies in heavy investments to usher in state-of-the-art technologies that help build the framework for efficient drug and vaccine development. This would only be possible when we have harnessed the power of digitisation and automation, which are the staples of Industry 4.0. However, as of now, this concept is still relatively new for the pharma industry. To add to it, there is a lack of talent in the market who can introduce and implement these processes. It would require significant investment for the pharma industry to step in this direction.

The collaboration between the drug manufacturers and suppliers in the vaccine space has been commendable, especially in light of the COVID-19 pandemic. The way ahead is clear: digital adoption and collaboration. Investing in innovation and research will foster the growth of all parties involved: the stakeholders, manufacturers, suppliers, academia, non-profits, and governments, where collaborating will help bring in a sound healthcare system.

Aditya Sharma, Head of BioProcess business for the India Region – Merck Life Science