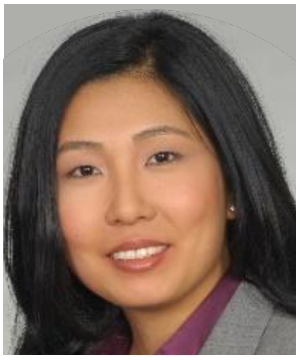
SPOTLIGHT

INTERVIEW

Pandemic preparedness: the vaccine manufacturer's perspective



Charlotte Barker, Editor, *Vaccine Insights*, speaks to **Jane True,** VP, mRNA Commercial Strategy & Innovation and Global Pandemic Security Lead, Pfizer, to get her thoughts on building pandemic preparedness and the complexities of vaccine equity.

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Q Your background wasn't originally in science—what brought you to the pharmaceutical industry?

JT: I have undergraduate and master's degrees in music, but after I graduated, I knew that I did not want a career in music. After going to a local recruitment company, I was placed at a generic pharmaceutical company where I worked on international sales and marketing with various local distributors and completed a couple of business development evaluations.

After getting my MBA, I joined a consulting firm focused on life sciences. Early on, I worked on a project in the vaccines space and found it completely fascinating. Vaccines are

different enough from traditional pharmaceutical products to be particularly interesting, but similar enough to apply the knowledge I'd gained. In 2008, I started working on flu vaccine, which is a completely different animal compared to other vaccines.

> "Another quality of mRNA that could prove very useful in potential future pandemics is the fact that it operates as a platform."

Q What does your current role entail and how has it been influenced by the COVID-19 pandemic?

JT: I am responsible for mRNA Commercial Strategy and Innovation at Pfizer. I manage mRNA pipeline products and work with my R&D colleagues on identifying some of the earlier companies in the field.

Without the pandemic, we would probably still be 5–7 years away from the first mRNA product. We have now proven that mRNA works in vaccines; in other spaces, it is still very early in the process, but given the huge investments and interest in the space, I believe that there is going to be rapid acceleration. If you invest in it, if you fund it, it will happen.

Q What are the key lessons we can learn from the COVID pandemic?

JT: Firstly, we still need to continue to invest in innovation. Manufacturers of flu vaccines had the technology, manufacturing capacity, and even some policy initiatives prepared for a flu pandemic, but these proved unsuitable for COVID-19. There were some major vaccine players that could not produce a vaccine fast enough or at all. We need to develop better vaccine technologies and obtain early information on novel pathogens.

Another lesson learned is diversification. Operation Warp Speed was successful in part because there was investment in multiple vaccine manufacturers and multiple vaccine technologies, increasing the odds that at least one vaccine would prove successful. Diversification in public health tactics is also very important. With COVID-19, we saw social distancing, lockdowns, mask use, and then vaccines—each of those measures played its part.

Companies like Pfizer also worked on antivirals, which some questioned given the success of COVID-19 vaccines. However, for future pandemic preparedness having a broadly protective antiviral is extremely important. Although we can make vaccines quickly now, especially with mRNA technology, we need the means to treat people at risk in the early days of an outbreak. Pandemic preparedness requires a holistic approach.

Q How can we leverage the potential of mRNA to guard against future pandemics?

JT: One of the benefits of mRNA technology is that it is very fast to manufacture. At the beginning of the pandemic, there was no infrastructure for manufacturing or delivering

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mRNA. Everybody started from zero, and Pfizer was able to build up that scale to make billions of doses available. Right now, there are not many other vaccine technologies that can come close to mRNA in terms of manufacturing speed.

Another quality of mRNA that could prove very useful in potential future pandemics is the fact that it operates as a platform. Immunogen and antigen research will still be needed to create the necessary RNA sequence, but we have built up a solid safety database for the encapsulation piece. This should allow future mRNA vaccines to move through regulatory pathways faster.

Given the unprecedented speed at which vaccine development is now moving, regulators rightly want to be sure that the vaccines produced are still safe and effective for the whole population. Hence, it may take some time for regulators to move toward treating mRNA as a platform, but I think we can get there. After all, mRNA COVID vaccines now have some of the largest safety databases on the planet.

Q What are your thoughts on the draft WHO pandemic accord [1] and on vaccine equity more generally?

JT: I appreciate the WHO taking concrete action in this space. However, part of what made us successful in this pandemic was being unencumbered by some of the things that the WHO is proposing (with the best intentions) to implement going forward. Restrictions on how research is carried out and IP protections could get in the way of a quick vaccine rollout and make manufacturers question the viability of developing an innovative vaccine. In my view, anything that would give pause or hesitation in future pandemics risks being detrimental.

Another thing that's come up in discussions of vaccine equity is having more manufacturing in low- and middle-income countries, but it's important to consider the sustainability of those manufacturing facilities. During inter-pandemic periods, there is currently not enough vaccine demand to sustain those facilities. We take our capital expenditure decisions very seriously and do not want to build a facility that may have to be shut down in 5–7 years because there is not enough demand. We are seeing examples of this already with some of the plants that have been or will be built in Africa.

There is no one right answer to vaccine equity. The takeaway for me is that anything that we can do to make pandemic preparedness sustainable is what we should be doing. For example, Pfizer has pledged to provide innovative medicines, including vaccines, at a not-for-profit price to 45 lower-income countries.

Q How should we move forward?

JT: Given that COVID-19 was not only a public health crisis but an economic one, I worry about the potential for an H5N1 pandemic. How much money are governments now going to have to combat a new pandemic?

The entire world has been able to learn from the COVID-19 pandemic, and it is important to keep in mind what we've learned to prepare for the next one. We need to continue to be vigilant. Now that the emergency is no longer staring us right in the face, I fear that we

will start to become apathetic. I want to make sure that there are continued, collaborative, global discussions on future-readiness efforts. It would be a real shame if, when we face the next pandemic threat, we had to build everything up from scratch once more.

BIOGRAPHY

JANE TRUE is the Vice President for Pfizer mRNA Commercial Strategy & Innovation and Global Pandemic Security Lead. She leads a team responsible for mRNA platform, pipeline and product strategy. Jane's team has also led the charge on Pandemic Preparedness, preparing the global community for future pandemics and achieving pandemic security. Jane has 20 years of experience in pharmaceuticals. She began work in the pandemic preparedness and medical countermeasures space in 2008, prior to the 2009 H1N1 pandemic. Prior to joining Pfizer, Jane was VP of Commercial Development at Seqirus, Inc. (part of CSL) where she was responsible for portfolio and pipeline strategy including mRNA and commercial strategy. In her last role, she was also responsible for global marketing, global market access (pricing, HEOR, access and reimbursement), competitive intelligence and commercial analytics and co-chaired the Portfolio Governance Committee. Prior to Seqirus/CSL, Jane spent most of her time in strategy and operations consulting as an independent consultant, and also with PwC and Capgemini Consulting. Jane holds a BA and Master of Music degree from Binghamton University (State University of New York) and received her MBA from New York University Stern School of Business.

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AUTHORSHIP & CONFLICT OF INTEREST

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