



**VAMSTAR**

# Investigating Reasons for Supply Chain Shortages in the Pharmaceutical Industry



Whitepaper



**C**oronavirus has resulted in a greater patient awareness and inquisitiveness about the origins of medicine. Overseas production leading to supply chain shortages highlighted how limited domestic and localised manufacturing currently is. These concerns were recently investigated by Teva Pharmaceuticals in a study with 3000 participants, across Europe. The study's findings were reported in a piece titled, "Medicine Miles" Becoming a Concern for European Patients'.<sup>1</sup> While the study

demonstrates patients' opinions, there are other questions to be asked about the origin of medicine. Enhanced budgets and shortages during the peak also attracted political and diplomatic attention.

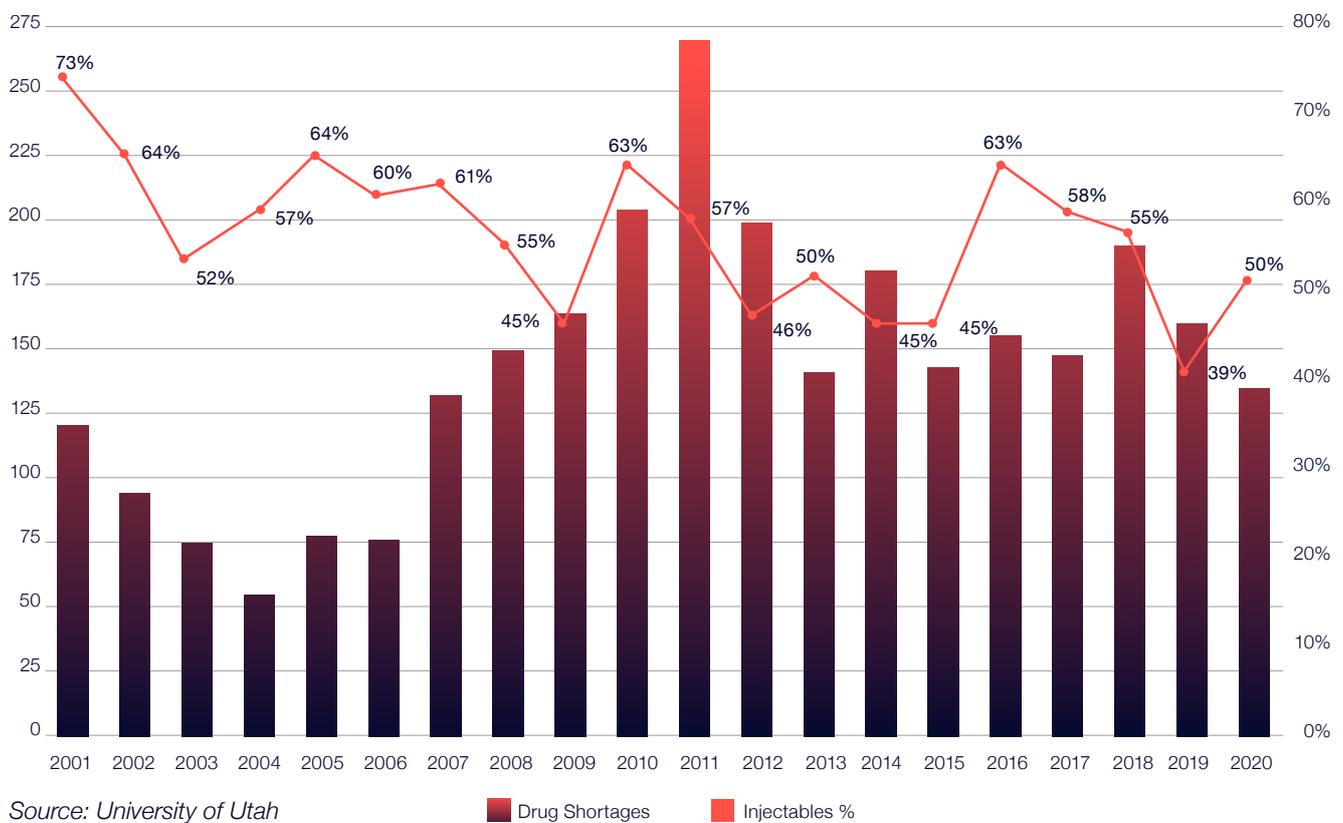
In this whitepaper, Vamstar investigates reasons for supply chain shortages as a result of overseas production. It will also interrogate current procurement strategies moving forward for the pharmaceutical industry, so that the shortages experienced during the pandemic do not happen again.

## Supply Chain Disruptions

Unprecedented demand led to supply chain disruptions which were amplified by hoarding and counterfeits. For several high consumption generics, Europe is highly dependent on overseas suppliers. Many key medicines were unavailable and since Europe could not supply medicine at the prices of the main suppliers in Asia, they were struggling to procure them.

For instance, during the early phase of the COVID-19 outbreak in Italy, the Italian Health Service experienced an unexpected jump in demand for drugs such as hydroxychloroquine (50 times) and azithromycin (20 times). However, these drugs were not produced locally, resulting in significant supply shortages.

### New Drug Shortages (2001 to 2020) — % Share of Injectables





In the case of Saudi Arabia, where drug shortages have been frequently reported over the past five years due to a multitude of reasons, the pandemic only exacerbated the situation. The SFDA pharmaceutical pricing policy ensures a reasonable profit margin for pharmaceuticals, especially essential drugs, by choosing a reasonable price based on a basket of reference countries. Despite this, the profit margin is significantly eroded in the tendering process, i.e. the price can be 70% lower as a result of centralisation through National Unified Procurement Company for Medical Supplies (NUPCO). During the outbreak of COVID-19, direct purchases through NUPCO were practiced, resulting in higher prices.



Policymakers in Saudi Arabia are now taking measures such as establishing an effective and reformed centralised procurement, developing and enforcing penalties to prevent price-gouging, mandating that data and dealings are maintained online and remain transparent, facilitating effective communication among all stakeholders, initiating and/or expanding local manufacturing practices, stockpiling essential drugs and equipment, and involving more pharmacists in the drug shortage mitigation processes.

Hoarding in key markets also caused supply chain disruptions. In March of 2020, the World Health Organisation, WHO, warned that the disruption to supply of PPE kits due to panic buying, hoarding etc. would put lives at risk. Similarly, hoarding of oxygen

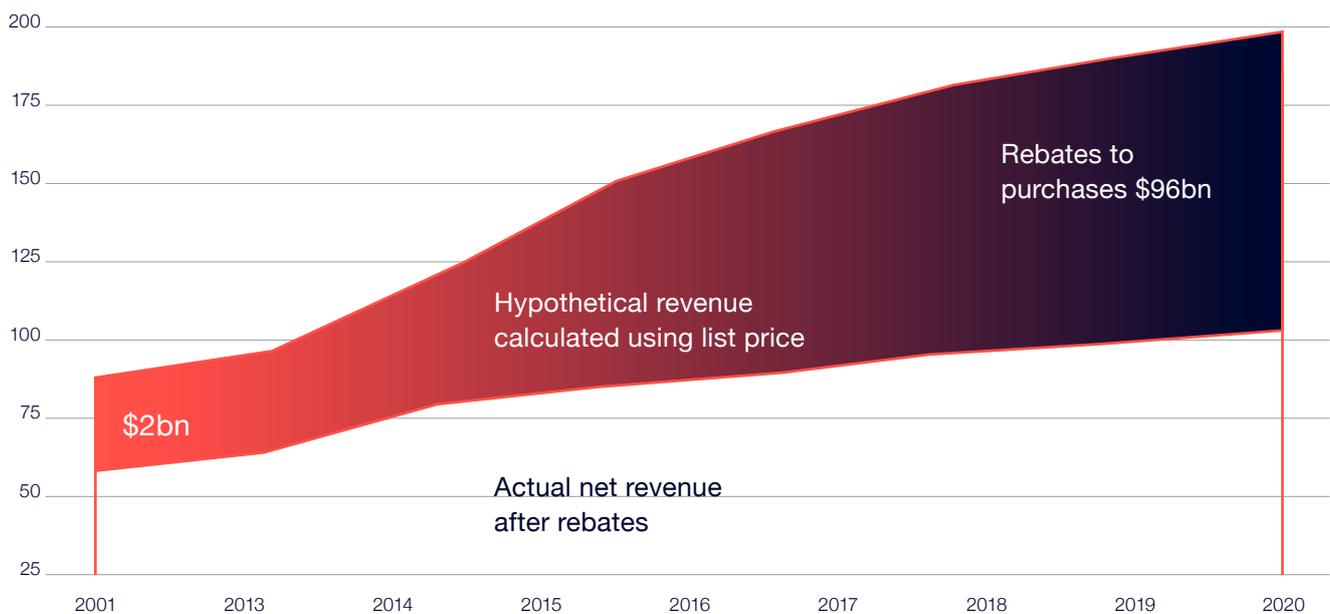
in Delhi (India), was a key reason for several deaths during the second wave of COVID-19 pandemic.<sup>2</sup>

To prevent hoarding like this from occurring again, countries like the USA have set up dedicated departments. In the USA, the Secretary of HHS issued a notice detailing the categories of medical supplies that must not be hoarded or sold for exorbitant prices, according to the United States Department of Justice. The specified equipment includes: PPE, respirators, ventilators and medical gowns.<sup>3</sup> In the USA, the Department of Homeland Security reported 668 seizures of COVID-19 related supplies by June 2020. Around the same time, WHO reported around 200 seizures of COVID-19 goods such as medicines, gloves, facemasks and test kits.<sup>4</sup>

## Pricing Pressures Are Rising on Procurers

Heavy spending during the pandemic has led to countries asking for medicines to now be reduced in price. For instance, as per Federal Statistical Office, Germany logged a €189 billion deficit in 2020. In comparison, it only logged €45 billion in 2019. Now, those in charge want reduced prices for medicines to compensate for COVID-related expenditures. Germany's potential three-party government has introduced plans to cut prices, in retrospect, for recently-launched prescription drugs.

### With heavy discounting the Gap in List to Net Price is Rising



Source: Sample based analysis in US

Similarly across Europe, centralised procurement appears the best way of negotiating these lowered prices. For instance, Vamstar found that by using centralised procurement policies, the NHS in the UK is now able to achieve as much as a 43% discount for most of the biosimilars it procures. Tasked with saving money, centralised procurers are encouraging volume/ value based procurement strategies.



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## Changing Political Landscape

Unequal distribution has highlighted how healthcare procurement can be dependent on international relations. Diplomatic distribution has become much more apparent with the development of COVID-19 vaccines. According to Amnesty International, as of 2021, only 3.1% of the population of low-income countries had received at least one dose of COVID-19 vaccine, while the figure was 62% of the population in high and upper middle income countries.<sup>6</sup> If this disparity continues, it is expected that a 70% vaccination rate will not be achieved by most low-income countries until the year 2030.<sup>7</sup>

Unequal vaccine distribution can partially be attributed to the geo-political landscape. According to Nicholas

Bugeja, for The Interpreter, wealthy countries used their economic and political advantages to acquire vaccine supplies in excess. An example of this is the purchasing of vaccines by Australia. The COVAX facility was set up to allow developing countries access to vaccines. However, Australia purchased 500,000 Pfizer vaccines from the facility. In what has been termed “vaccine diplomacy”, the country has donated 60 million of their vaccine doses. Receiving the donations were its important regional neighbours, Indonesia and Papua New Guinea. Similarly, China has been actively distributing vaccines to countries in the Asia-Pacific in attempts to strengthen its ties within the region and obscure the influence of the USA, it is speculated.<sup>8</sup>



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## Greater Customer Awareness

With supply shortages such as this widely known about, the question of where one's medicine was coming from gained interest. Teva Pharmaceuticals asked opinions from 3,000 patients who rely on regular medication for chronic conditions. These conditions included Alzheimer's, cardiovascular disease, and depression. Teva found that 70% of these patients wanted to know where their drugs are made and

59% of participants thought that Europe should have greater autonomy over its essential medicines.

In the same vein, 84% of patients wanted their government to increase investments in national pharmaceutical manufacturing to avoid over-reliance on overseas manufacturing. The study demonstrates a consumer desire for change and a much greater awareness of the pharmaceutical industry.<sup>9</sup>



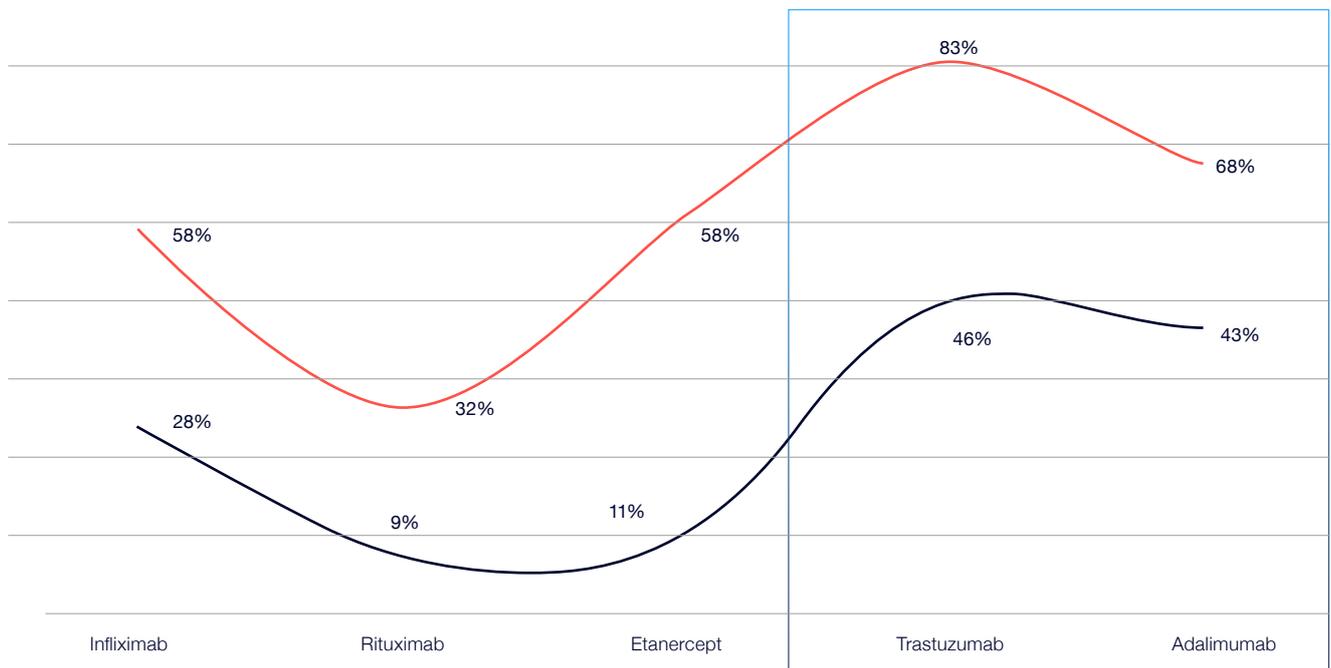
## Race to the Bottom: Biosimilars Example

Biosimilars have also seen an increased adoption globally with over 33 approvals in the US alone (till 2021). The second wave of Biosimilars have seen much greater discounts within the first year of approvals. Based on a study conducted by Vamstar, in France, the share of Biosimilars has already exceeded 90% in the trastuzumab market. In addition, suppliers have provided discounts of 70% to 90%. Trastuzumab biosimilars rose in market share from 64% in 2019

equated to about 68% in 2021. In total, savings in the trastuzumab market \$2.5 billion.

Originator companies, on the other hand, are focusing on biobetters, long term volume based contracts, quality assurance, and supply guarantees to defend margins in these markets. Vamstar's is the ideal Exchange platform for mapping the global opportunity for biosimilars, as it can identify the right buyers for your strategy.

### Second wave of biosimilars experience heavy discounting within the first couple of years



Source: Vamstar's study on Biosimilars for EU

## Conclusions

In conclusion, there are ways of avoiding the supply chain disruptions as recently experienced. Within this is the need for governments to reduce spending and support domestic manufacturing. In this way, over-reliance on overseas production from the major players in emerging markets can be bypassed. This is also in line with what the people of Europe want for their own countries.

Patients have clear wishes to have more domestic control over their medicines. Part of this move is the pricing pressures that suppliers are resultantly facing. Domestic manufacturers are trying to bring down their

own prices to compete. Using medical technology like the aforementioned biosimilars, could be a means of doing so for these manufacturers. By reducing the dependency on a single supplier, buyers are likely to follow a multi-winner model rather than winner-takes-all strategy.

Vamstar's Exchange platform is an ideal combination of process efficiency and institutional marketplace. We focus on matchmaking of the right buyers with the right suppliers, and design effective strategies to enhance and optimise revenues and profits.

Vamstar's AI platform brings complete revenue and pricing excellence capabilities that seamlessly integrate with your workflows



5x

more opportunities



3x

faster tendering process



>6%

increase in win rates



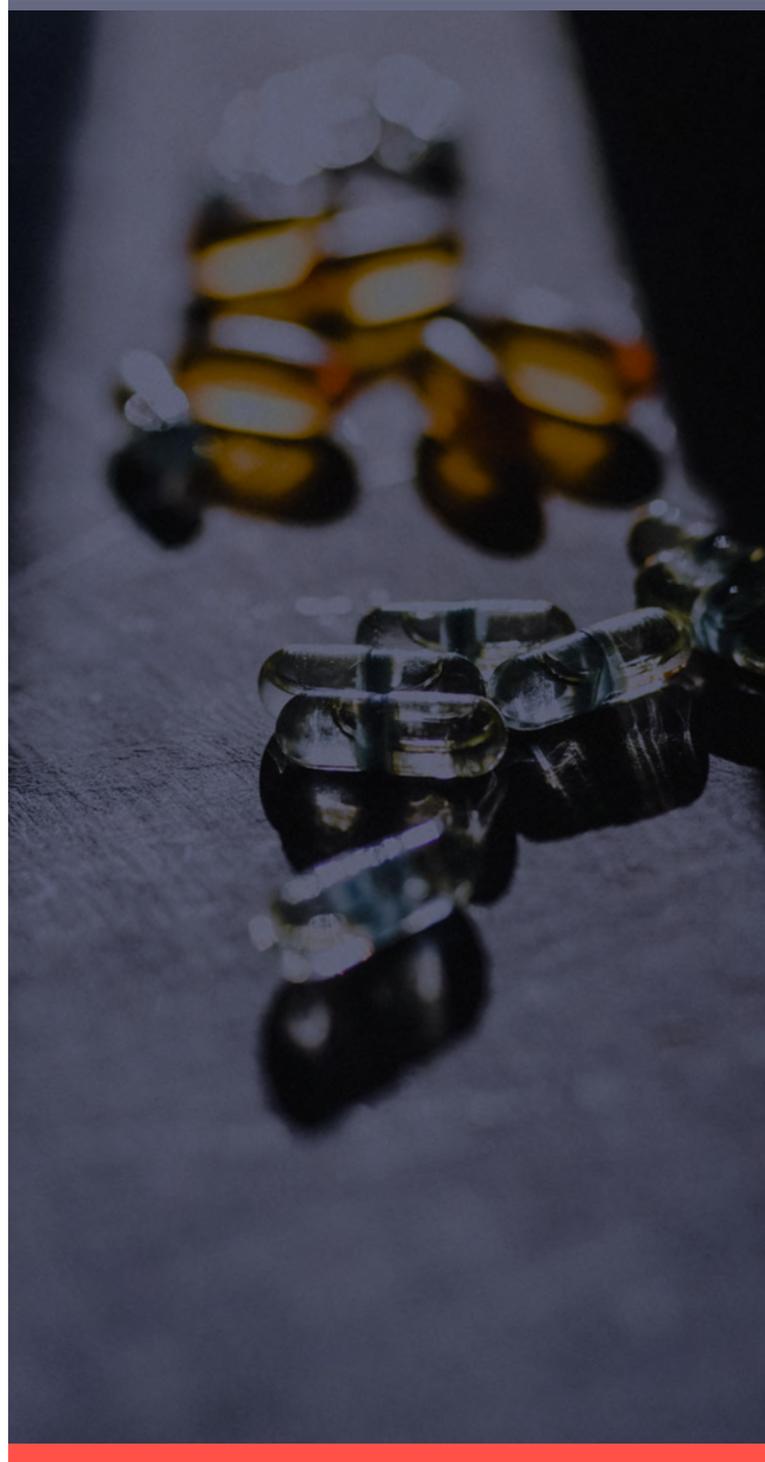
>11%

increase in revenues

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## Endnotes

1. Fiona Cohen "Medicine Miles' Becoming a Concern for European Patients' (2021) <<https://www.tevapharm.com/news-and-media/latest-news/medicine-miles-becoming-a-concern-for-european-patients/>> [accessed 22.11.21].
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4. 'Trade in Fake Medicines at the Time of the COVID-19 Pandemic' (2020) <<https://www.oecd.org/gov/illicit-trade/oecd-fake-medicines-webinar-june-10-summary-note.pdf>> [accessed 26.11.21].
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6. 'G20's Bitter Divide on Global Vaccine Inequality Could Condemn World to an "endless pandemic", Charities Warn' (2021) <<https://www.amnesty.org/en/latest/news/2021/10/g20s-bitter-divide-on-global-vaccine-inequality-could-condemn-world-to-an-endless-pandemic-charities-warn/>> [accessed 19.11.21].
7. 'National Self-Interest Cannot Govern Global Vaccine Distribution', Nicholas Bugeja (2021) <<https://www.lowyinstitute.org/the-interpretor/national-self-interest-cannot-govern-global-vaccine-distribution>> [accessed 19.11.21].
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9. Fiona Cohen "Medicine Miles' Becoming a Concern for European Patients' (2021) <<https://www.tevapharm.com/news-and-media/latest-news/medicine-miles-becoming-a-concern-for-european-patients/>> [accessed 22.11.21].





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