



Causes, Impact and Strategies to Overcome Drug Shortage

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DESCRIPTION

Drug shortage is a global problem affecting low, middle and high-income countries. Many countries are developing different strategies to overcome this shortage problem, which is accelerating and affecting the world. Medicines of all kinds tend to be in short supply, including basic life-saving drugs, anticancer drugs, antibiotics, pain relievers, opioids, cardiovascular drugs, radiopharmaceuticals, and injectables. All pharmaceutical dosage forms are at greater risk of sterile injectable shortages than other dosage forms. There are many reasons for shortages, including supply and demand issues and regulatory issues. Supply issues include manufacturing, raw material availability, logistical issues, and business issues. In contrast, demand issues include timely inventory levels, increased product demand, seasonal demand, and unpredictable demand. A key factor in the regulatory problem is the lack of a uniform definition of drug shortages. Drug shortages affect all stakeholders from economic, clinical and humanitarian perspectives. The World Health Organization has developed four levels of global mitigation strategies to overcome the global drug shortage. This includes solutions to address current shortages, operational improvements to reduce the risk of shortages and enable early warning, government policy changes, and shortage management education and training for all health professionals. It is included. Pharmaceuticals are an important part for healthcare that can improve the health and quality of life of patients. In modern times, with advances in manufacturing, distribution and transportation technology, shortages of medicines are no longer a problem, and supplies are expected to be resolved soon without impacting patient health and quality of life. But in recent years, the shortage of medicines has become a serious problem worldwide.

There are multiple definitions of drug shortages. The University of Utah Drug Information Service Centre defines a drug shortage as "a supply problem that affects the way pharmacies prepare and distribute products, or affects patient care when prescribers must choose alternative therapies because of to supply problems ". The US Food and Drug Administration

(FDA) define a drug shortage as "a period of time in which the demand or expected demand for a drug exceeds the supply of the drug". Although the definition is slightly different, if the patient needs treatment, for whatever reason, the patient either does not receive treatment, or chooses an alternative treatment, delays treatment or tries to get treatment through other channels, which brings some difficulties.

Drug shortages are critical to public health and safety and have affected multiple medical fields in recent years, including oncology, anaesthesiology, emergency medicine, and nutritional support. This shortage has led to delays in treating patients, drug rations and, in some cases, refusal of treatment due to lack of access to vital drugs. Addressing shortages remains a priority for the Food and Drug Administration (FDA); manufacturers and other stakeholders can also play an important role in ensuring that critical drugs are still available for patient care.

Problems with local ordering, local or national distribution, or manufacturing can cause supply problems, leading to regional or national shortages. The drug distribution system in the United States is very complex, usually using a real-time inventory system. Instant inventory is a cost reduction strategy used to avoid the costs associated with excess inventory. This means that, generally speaking, there will be no excess products anywhere in the supply chain. Generally, drugs produced by manufacturers are distributed through wholesalers. However, if a manufacturer has supply problems, it will often lead to a national drug shortage, especially if the manufacturer is the only source of drugs or has a large market share. However, due to the different distribution of products in the United States, specific shortages are unlikely to occur at the same rate across the country at the same time. Once shortages begin, it is not uncommon for the healthcare system to order more quantities than usual, because in a shortage situation it is almost impossible to know when additional supplies can be provided again. According to data from the 2011 American Hospital Association survey, 85% of hospitals purchase excess inventory to cope with shortages. This over order can prolong the duration of the shortage across the country, as manufacturers attempt to liquidate a large number of out-of-

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order trades after their production lines are resumed again. Over ordering also means that some hospitals may have unnecessarily

large inventories, while other hospitals may not be able to source products.