Improving pharmaceutical warehouse supply chain lead time – From production to cross-docking

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ABSTRACT
Bottlenecks and wastes are prevalent issues in warehouses, particularly in the pharmaceutical industry with large stock volumes. Value stream mapping (VSM) is a powerful lean instrument to detect value-adding and process efficient feasibilities in a production chain. It has the ability to connect all the stakeholders in the chain and manage customer demand. Optimum information and material flow are needed in a pharmaceutical warehouse supply chain without backlogs to avoid the supply chain lead time build-up. In this study, a pharmaceutical warehouse has been studied by dividing it into two major segments and the VSMs for both present state and future state were drawn to find out possible feasibility of lean implementation to improve the warehouse operations. There was a 20.22 % increase in the value-added time and 23.17 % decrease in the non-value added time based on the lean proposals and assumptions in the future state. But still, more quantifiable methods are needed to dynamically visualize the proposed lean tools in the supply chain.

KEYWORDS
Lead time reduction; Lean warehousing; Pharmaceutical warehouse; Value stream mapping; Warehouse supply chain

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