Efficiency of Inventory Management for Residual Vaccines of Covid-19

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Abstract

Covid-19 pandemic is still having a huge impact on the economy. Vaccination is recommended for effective response to the spread of Covid-19. However, due to the uncertainty of the vaccine such as after-effects of the vaccine, unsafety, personal beliefs, allergic reaction to vaccine material, uncertainty of vaccination reservation occurred. So, waste of residual vaccines is increasing. This study proposes newsvendor model, lateral transshipment accounting for vaccine perishability and the uncertainty of demand. We analyzed the effectiveness of vaccine reservation overbooking for uncertain vaccination demand using the newsvendor model and the economics according to the lateral transshipment when no-shows happened and the policy of efficient inventory management. We can contribute another inventory vaccine management when other pandemic happens.

Keywords
uncertain demand, inventory management, newsvendor, lateral transshipment, simulation. (10 font)

Acknowledgements
Add acknowledgement if needed.

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