

ABSTRAK

Improper of blood management will lead to wastage due to the nature of blood that is not durable and easily damaged, so if the blood is stored too much and not used until the expired date, the blood will be damaged. Platelet components have a limited lifetime for 5 days. With a short blood age, every months there will be two possibilities, one is shortage of blood inventory (stockout) or two, over blood inventory (overstock) in the storage area. From the data obtained, the expired rate in 2017 reached 743 blood bags. Until now Indonesian Red Cross has not been able to predict the level of blood demand because of the uncertain level of demand. In this study, simulation will use Monte Carlo to develop a number of policies that can optimize inventory levels and minimum inventory costs.

Keyword: Blood Inventory Management, Simulation, Monte Carlo.