عنوان مقاله:

Optimal Blood Transportation in Disaster Relief Considering Facility Disruption and Route Reliability under Uncertainty

محل انتشار:

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خلاصه مقاله:

The blood supply chain as a part of a healthcare system plays a substantial role in improving health within societies and supplying blood for daily needs. Specifically in disaster condition, blood supply is the challenge requiring more attention. This paper presents a fuzzy-stochastic mixed integer linear programming model to design blood supply chain network for disaster relief. To deal with uncertainty in the model parameters, a fuzzy programming approach is considered, and the combination of the expected value and the chance constrained programming is applied to solve the proposed model. Besides, a real case study in Iran is implemented to illustrate the applicability of the model. The results imply that an appropriate adjustment in the capacity and coverage radius of blood facilities, a decrease in the disruption probabilityof facilities and transportation routes as well as referral rate, can be applied as strategies to improve the supply chain costs.

کلمات کلیدی:

Blood supply chain; disaster; fuzzy-credibility; chance-constrained programming