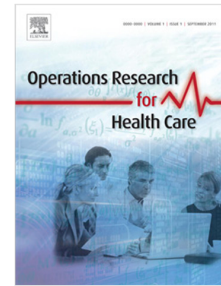


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A multi-period location–allocation model for nursing home network planning under uncertainty

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A Multi-period Location–Allocation Model for Nursing Home Network Planning Under Uncertainty

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Abstract This paper proposes a multi-period location–allocation problem arising in nursing home network planning. We present a strategic model in which the improvement of service accessibility through the planning horizon is appropriately addressed. Unlike previous research, the proposed model modifies the allocation pattern to prevent unacceptable deterioration of the accessibility criterion. In addition, the problem is formulated as a covering model in which the capacity of facilities as well as the demand elasticity are considered. The uncertainty in demands within each time period is captured by adopting a distributionally robust approach. The model is then applied to a real case study for nursing home planning network in Shiraz city, Iran.

Keywords Location–allocation problem, Health care, Strategic planning, Stochastic programming

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