LOCATING SEA AMBULANCES TO RESPOND TO EMERGENCIES OF VULNERABLE POPULATIONS. CASE OF CARTAGENA BAY IN COLOMBIA

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Abstract

Emergency services are an important element for healthcare assistance because its rapid response to transportation is essential for saving lives. Cartagena de Indias presents some weaknesses in terms of covering the demand for emergency transfers from insular areas due to the non-existence of terrestrial routes to hospitals and healthcare facilities. This study aims to determine the optimal location for sea ambulances using a mixed-integer linear programming model. A three-staged methodology allowed to select optimal locations, reducing response times of emergencies for vulnerable populations considering available healthcare facilities and maritime safety requirements. © 2021, Springer Nature Switzerland AG.

Keywords

Healthcare; Location; Mixed integer linear programming; Sea ambulances