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An Expert System Approach to Medical Region Selection for a New Hospital Using Data Envelopment Analysis

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ABSTRACT

An appropriate medical region must be selected before establishing a new hospital. Once established, a hospital may bring many medical doctors and facilities to the area. Not only can the distribution of medical resources in that area be influenced, but also competition among different hospitals can be enhanced. The government needs to consider the issue of medical resource distribution; therefore, medical region selection has important policy implications. This study uses data envelopment analysis (DEA) to establish the effective indicators, and also uses an expert system on the equality of medical resource distribution to identify medical areas lacking medical resources and where there is relatively less competition. As a result, this study can provide the necessary information to facilitate the choice of region for a new hospital. This method not only avoids assigning a hospital to a medical region where there are surplus resources, but it can also reduce the risk of excessive competition.

KEYWORDS

Practice Location, Equality of Medical Resources Distribution, Data Envelopment Analysis, Effectiveness

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