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Title: The efficiency of health networks in "Tabriz University of Medical Sciences" applying mathematical model of "data envelopment analysis"

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Abstract: Introduction: Health Networks are designed at the forefront of health service systems and a high percentage of health sector resources are being allocated to these networks in our country. Hence, it is necessary to pay a serious attention to the efficiency indexes to be assured of the best application of these scarce resources. This study aimed to estimate the efficiency of health networks and consequently their role in improving the region’s level of health.

Methodology: This study is a descriptive-analytic one that was performed in 2010. The health networks of Tabriz University of Medical Sciences were considered as the study population. The input variables included the networks' current per capita funding, the number of personnel employed in each network, the number of active beds per ten thousand people in each district and finally the average per capita of health houses and health centers in rural and urban areas per ten thousand. The output variables included infant mortality rate (IMR), children mortality rate (CMR), the percentage of deliveries that was managed by an under graduate person and the percentage of family planning services. The data collection forms designed by the researchers according to the aims of the study, finally a comprehensive analysis software DEAP 2 was applied for data analysis.

Findings: Results showed that Miyaneh and Hashtrood Health Networks had the lowest efficiency among all health networks in the province with 0.580 and 0.625 of total technical efficiency, respectively. As a result, Vrzqan and Malekan networks were introduced as the reference and template for the previous above networks because of their similarity in their status and output data.

Conclusion: Applying this model may help the chief managers in universities of medical sciences to be able to assess the performance of related units and try to increase this grade in future.

Efficiency, Health Network, Data Envelopment Analysis (DEA)

Presentation: Poster