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Evaluating the technical efficiency of community health care posts using data envelopment analysis

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Statement of the Problem: Community Healthcare Post (CHP) is a primary health care center in rural area where doctors are scarce. CHP is one of the public health system and was established to provide cost-effective healthcare services for vulnerable populations. CHP is operated by a registered nurse who provides basic medical services to local residents in rural area and backcountry. The aim of this study was to evaluate the technical efficiency of CHP's activities.

Methodology & Theoretical Orientation: The technical efficiency of CHP is measured by data envelopment analysis, a constant return to scale DEA model. Data were collected from the government information disclosure system. Subjects included 695 CHPs out of total 1,904 CHPs in 2014. The costs and extra working hours were selected as input variables and the number of primary healthcare services (medical practice, examination, referral, and consulting) was used as output variable.

Findings: The average technical efficiency score of all CHPs calculated by DEA was 73.1%. The percentage of efficient CHPs was 22.3% (155 CHPs). When the number of residents is more than 2,000 people, the proportion of efficient CHPs is higher than 70% (A CHP is established for residents between 500 and 5,000). The primary care service of CHP is considered to be an efficient service, and therefore CHP's function and activities need to be extended in rural area or backcountry. In addition, efficient CHPs had less inputs with a superior performance. A decrease in inputs and an increase in outputs are required to attain optimal points in order to improve the technical efficiency.

Conclusion & Significance: It should be noted that the technical efficiency emphasizes only quantitative results rather than quality of the primary care services of CHP. An efficient resource allocation and health equity could be attained through a balance between quantity and quality of the CHP' services.

Biography

Jinhyun Kim has his expertise in health economics and policy with active participation in public services. He serves as policy consultant for the Ministry of Health and Social Welfare and The National Health Insurance Service in Korea. He studied international health at Harvard School of Public Health. His research interests include health policy, economics and nursing management.

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