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## Measuring the productive efficiency of healthcare provision in Hubei, China: A bootstrap-malmquist data envelopment analysis

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In recent times, there has been an increasing imbalance between supply and demand for healthcare services in China. How to effectively improve the productive efficiency of healthcare provision is crucial to the improvement of healthcare performance, as well as optimizing the allocation of regional healthcare resources. The purpose of this study is to evaluate the regional dynamic changes of productive efficiency of healthcare provision in Hubei Province based on prefectures, and to generate policy implications for better improvement.

**Methodology:** Based on the 2008-2014 panel data of inputs and outputs from 17 prefectures of Hubei Province (China), Bootstrap-Malmquist Data Envelopment Analysis (DEA) model was used to measure the total factor productivity changes (TFPC) and their decomposition indices.

**Results:** Overall the regional healthcare inputs and outputs in Hubei Province had increased from 2008 to 2014, and TFP of the 17 prefectures had increased at varying degrees in six years. On average, technical efficiency changes (TEC) in Hubei Province had first showed a downward trend from 2008 to 2010, and then an upward trend in the following four consecutive years. The trend in technological changes (TC) was consistent with that in TFPC between 2008 and 2014.

**Conclusion:** TFP growth of the 17 prefectures in Hubei may have resulted from the new round of Chinese healthcare reform vigorously implemented since 2009. However, a substantial improvement in TC is the major contributor to TFP growth. Prefectures with inefficient healthcare productive efficiency should focus on improving their technical efficiency (TE).

### Biography

Yan Chen has graduated from department of Global Health of Wuhan University China and acquired his bachelor's degree. Currently he is doing his post-graduate study at Department of Social Medicine and Health Management in the same university and his research interests focus on efficiency and productivity evaluation of health care organizations. He has published 3 Chinese and English papers in reputed journals.

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