

# Global Health Economics Summit

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## HOSPITAL HETEROGENEITY: WHAT DETERMINES THE QUALITY OF CARE?

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A feature of health care systems, for instance, the NHS is the presence of heterogeneity in health care quality across hospitals. This study seeks to understand what internal and external hospital based factors are responsible for explaining variations in quality of care measured using the processes of care in the case of stroke. We used NHS trust data from National Sentinel Stroke Audit from 2004 to 2010. The data were merged with other administrative data sets to capture hospital's characteristics. We employed a new class of panel regression tree estimators from the machine learning literature to study the data. A reason behind the choice of the method is the intuitive interpretability of the results. The non-parametric method has the capability to reveal potential interactions among the variables, which could offer valuable information about the processes driving variations in quality across NHS hospitals. The study found complex interactions or complementarities amongst the hospitals organizational, structural and regional level factors in determining quality with organizational factors for stroke care to be the most important predictors. The main results from the tree method are robust to alternative specifications and methods for instance, linear and fixed effect models which control for fixed effects. Cross validations and in sample statistics were carried out to assess the sample predictive performances and fit the data. The findings shed new light on previous research determinants of healthcare quality by identifying critical interactions. The findings helped us to improve and inform policy decisions for quality improvement by identifying the factors that drive quality.

### Biography

Manhal Mohammad Ali is presently pursuing Ph.D. at Alliance Manchester Business School and researching in the area of health economics. His research specifically focuses on healthcare performances measured by quality, productivity, organizational and managerial performances and, trying to understand what causes their variations. He completed his MSc and BSc in Economics from the University of Bristol and the University of Greenwich respectively and worked as senior Lecturer at East West University, Bangladesh. His other research interests include econometrics, causal inference, digital economy and big data.

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