Private Enterprise Development in Low-Income Countries

Performance Measurement of Hospitals in Nepal: An Application of the Management Approach

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Management score is slightly higher for private hospitals (2.08) than public hospitals (1.94); however, this difference is not statistically significant, meaning that a different sample may show equal management scores between private and public hospitals. Better management practice scores are strongly associated with the performance indicators of the hospitals in Nepal. The result demonstrated that management score is not only associated with total services but also associated with the quality of service delivery.

Introduction

After a decade long armed conflict in Nepal (1996-2006), the country has seen a lot of investment in the healthcare sector. Both public and private sectors are encouraged to establish hospitals, which are considered small and medium enterprises (SME). In particular, the wave of investments from the private sector shows that healthcare is now turning into an attractive area of investment.

Although management determines the functionality of the hospitals, in Nepal there is a lack of evidence related to hospitals' performance, which is key to know the current status and to develop future strategies. The interest in measuring performance is to understand its impact on impatient days; quality improvement, bed occupancy rate, impatient days per technical staff and recurrent expenditure per impatient day. The identification of reliable and scientifically valid performance measurement strategies would be a boon to the policymakers and stakeholders.

In this regards, this study contributes to analyse the status of management practices and relationship between management practices and hospital performance. The study has therefore a twofold objective: to measure the management practice at public and private hospitals in Nepal; and to describe the relationship between hospitals' performance and management practices.

Methodology

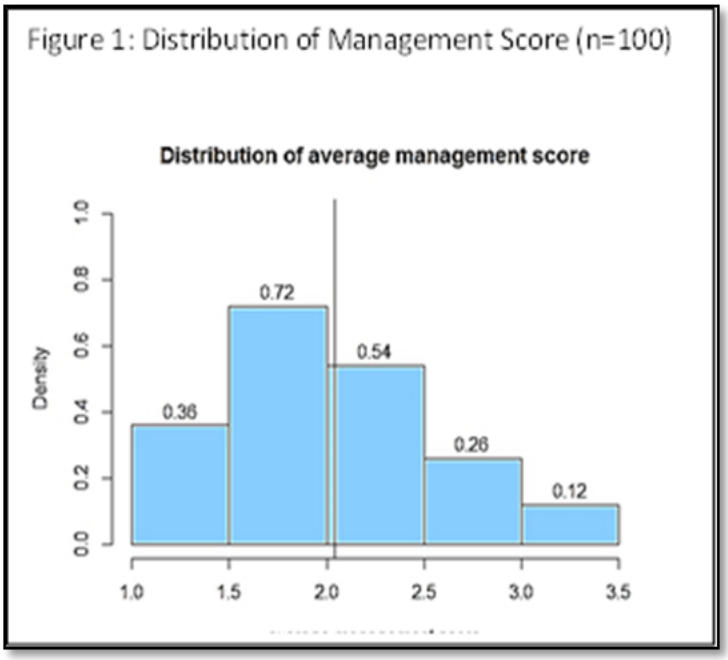
This study is based on a cross-sectional research design and adopts the methodology, process, methods and instruments developed by Bloom et al (2010) to measure management practices from the employer perspective of hospitals. Hospitals are the unit of analysis. One hundred hospitals are included as a total sample size for this study. Data were collected from two surveys, a primary survey of the hospital and the management survey. The management survey includes 18 questions from which the overall management scores were computed. The management survey tool includes variables describing the process of the interview, characteristics of respondent and features of the hospitals. For each question, the interviewer reported a score between 1 and 5, a higher score indicating a better performance in the particular category. Note that the survey was double blind, meaning that hospital manager does not know the scoring methodology of management practices and we do not know anything about the performance of hospitals. Interviews were conducted over the phone with hospital managers. A hospital survey tool was

prepared in order to collect data related to performance indicators including hospital characteristics, service indicators, process quality, recurrent expenditure and other details. After developing reasonable measure of hospital performance and descriptive statistics of management score, the study explains the association between management score and performance indicators of the hospitals using an alternative empirical estimation.

Findings

Among all the hospitals under study, 33% are public hospitals while 67% private hospitals. Average management score was found around 2 (Figure 1). It can be observed that the majority of hospitals lie between the management score of 1.5 to 2.5 with an average of 2.03. The scores are also compared across public and private hospitals. The management score is slightly higher for private hospitals (2.08) than public hospitals (1.94); however, this difference was not statistically significant[1]. Results from the regression analysis suggest that better management practices are strongly and positively associated with the performance indicators in terms of total impatient days; infection prevention (IP) practice score, bed occupancy rate, impatient days per technical staff (Table 1). Recurrent expenditure per impatient day is negatively associated with management practices, indicating that better management practices can decrease per unit recurrent cost; however, it is nearly significant at 10 percent level. A positive association between management practices and IP practice score (significant at 5 percent level) indicates better management score and explains the better quality of health care services.

Figure 1: Distribution of Management Score (n=100)



District specific averages of management score also shows that the districts that are good performers in terms of management practices are also more efficient hospitals as reported by a study of Nepal. The results suggest that non-clinician manager can do better management practices as compared to clinician manager. Hospital density, a proxy variable for market competition among the hospitals in the service area, has positive coefficient which indicates that increased hospital density is associated with better management score. The findings are consistent with the available literature and empirical application of the methodology in international arena (Bloom et al., 2014).

Policy implications

The findings of this research are theoretically important and policy relevant, in particularly for low income countries. The current study contributes to alternative empirical formulation of estimation model while estimating the contribution of management practices to improve hospital performances.

The study redefined the performance indicators of hospitals where no health insurance system is operated. Most of the low income countries do not have health insurance system. The results of different analysis encourage us to conduct a large scale project, particularly related to management field

[1] In statistics, when taking differences between means drawn from a sample, there is the possibility (expressed as a probability) that the obtained difference is actually a zero, meaning that, if another sample were drawn, the two averages would be the same. When a difference is deemed statistically significant, it means that the possibility (again, expressed formally as probability) of a zero difference is extremely low.

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Table 1: Hospital performance and management practices

	Bed occupancy rate	Total impatient days	IP-practice score	Impatient days per technical staff	Recurrent expenditure per impatient day
Estimate	0.319	0.210	0.161	0.303	-0.171
Robust Std. Error	0.092	0.075	0.080	0.090	0.108
t-value	3.470	2.790	2.020	3.360	-1.590
p-value	<0.001***	0.007**	0.047**	0.001**	0.117
R-squared	0.470	0.650	0.570	0.560	0.340
N	100	100	100	100	99

* 10%, **5%, ***less than 1%

experiment. Indeed, the current study may not be sufficient to provide information on how management practices improve the performance of hospital.

Performance of hospitals helps systems move towards universal health coverage that is global agenda for low income countries. Improvement in management practices can support to reform health system. Management practices can be largely improved as hospital managers do not have any formal management training in their professional life. Management practices to run the hospital are different from the clinical knowledge and practices or health care services providing practices. Management training intervention needs to be implemented to improve hospital performance in LICs.

Moving Forward…

This study provides information on 'what works'. Sufficient information on "what does not work" but also on "how it works" is required to design evidence based policy to improve the hospital performance in low income and post-conflict countries, like Nepal. Current evidence from other literature too does not provide sufficient information to design the package of intervention to improve the management practices while keeping capital and labour inputs constant. Causal-effect analysis with determining counterfactual is required to ensure the real impact of improvement in management practices on hospital performance.

Management training intervention at the hospital level can be implemented in the existing system and this may be a cost effective intervention compared to other mechanisms such as result based financing. The impact evaluation study with determining counterfactual not only informs "What works?" but also "under what conditions does it work and for how much?" Answers to these questions are important for policymakers to design appropriate policy to improve hospital performance. In addition, we expect that such study will create spill-over effects to other SMEs in the country. Impact evaluation study is recommended to better understand the effect of management practices on improvement of hospital performance in LIC.