

relationship between hospital ownership and costs are possibly due to the data being gathered under different reimbursement systems with different incentives for hospitals to contain costs.

Although many studies have documented possible reasons contributing to the relationship between hospital ownership and costs of patient care, they are all based on US experiences. Therefore, they cannot fully account for the relationship between hospital ownership and costs under case payment in Taiwan because of differences in medical and cultural practices and in case payment of DRGs. In response to the lack of published articles related to cost comparisons among hospitals under case payment, this study proposes five possible reasons including efficiency, patient shifting, implementation of clinical pathway, and LOS which contribute to the relationship between hospital ownership and costs under case payment in Taiwan based on literature reviews, in-depth interviews with experts, and field observations. The following sections discuss these five possible reasons.

Efficiency

Original development of the DRGs was largely motivated by the need for utilization reviews, and they offered a measure to compare the cost-effectiveness of inpatient services in acute-care hospitals.¹³ Rezaee et al. indicated that PPS implementation encouraged hospitals to enhance the efficiency, effectiveness, and economy of providing healthcare services.¹⁴ Similarly, Rayburn et al. found that PPS did have a significant impact on the efficiency of operations of US hospitals.¹⁵ Moreover, some researchers also found that high hospital costs may be a result of inefficient operations.^{16,17} For example, Zuckerman et al. concluded that inefficiency accounts for 13.6% of total hospital costs.¹⁷ Grannerman et al. also suggested that higher costs were related to hospital inefficiency.¹²

Efficiency differences in the production of hospital services have sparked much research over the past two decades. Although many studies using data envelopment analysis have been consistently reported, results have been mixed. For example, Wilson and Jadow found that public hospitals were less efficient than private hospitals.¹⁸ Conversely, Ozcan et al. re-

vealed that for-profit hospitals appeared to be highly inefficient relative to hospitals with other ownership forms.¹⁹ A recent study by Helmig and Lapsley in 2001 also concluded that hospitals in the public sector were relatively more efficient than private hospitals.²⁰ Moreover, a study by Rosko indicated that inefficiency was positively related with for-profit ownership status.²¹ Thus, there is no consensus of the relationship between efficiency and hospital ownership based on the US experience.

On the other hand, many studies concerning the relationship between hospital ownership and efficiency have also been conducted in Taiwan. Contrary to the US experience, published studies have consistently reported that public hospitals were less efficient in comparison with private hospitals.²²⁻²⁴ The convergent findings provide evidence that the low hospital efficiency in public hospitals leads to higher costs per discharge under the case payment system in Taiwan. Only hospitals that can provide the most-efficient patient care will stay competitive and obtain maximum profits under the case payment system.

Patient Shifting

Under the case payment system, hospitals are paid a fixed rate for each treated patient under ICD-9-CM codes, rather than for actual resources used. Therefore, case payment might create the financial incentives for hospitals to admit low-cost, profitable patients, and to discourage the admission of high-cost, unprofitable patients. Based on experiences with DRGs in the US, hospitals did discourage admissions when a patient was identified as having high-cost characteristics.²⁵ Moreover, Hurley et al. observed that even after admission, the hospitals might attempt to transfer the patient to another hospital as soon as he/she becomes a high-cost loser,²⁶ and they also indicated that patient shifting may be more prevalent in regions characterized by a large proportion of for-profit hospitals, because administrators in for-profit hospitals are able to exert more control over the medical staff. The greater interest by for-profit hospitals in maximizing net financial returns contributes to the high prevalence of patient shifting among for-profit hospitals. Thus, it seems reasonable to assume that averaged low costs